



# 2015 ANNUAL REPORT









# TABLE OF CONTENTS

From the Executive Director .....	4
From the President of New Mexico Tech. ....	5
Who We Are .....	6-7
NM MESA Schools .....	8
NM MESA Regions .....	9
NM MESA Statistics .....	10-13
Advisor Testimonials .....	14
Financial Expenses & Achievements .....	15
Donors .....	16
Student Testimonials .....	17-18
Board of Directors .....	19

Keep up with MESA!



# From the **EXECUTIVE DIRECTOR**

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Ya'at'eeh (Hello),

I am pleased to share the NM MESA 2015 annual report with you. 2014 – 2015 was our 32nd year as a nonprofit organization. MESA has impacted thousands of students and teachers throughout its 32 year history. From its modest beginning in the early 80's, NM MESA is now the premier pre-college STEM program in New Mexico. Our teachers and students are the reason of our success and growth. The day-to-day work and commitment of NM MESA teachers and NM MESA staff is where "the rubber meets the road".

This year, we recognized and rewarded 40 teachers for participation in NM MESA for five years and longer. We even have teachers who have been with NM MESA for 20 years! They are the true heroes of our organization.

It's been a great outcome year for NM MESA students at the national stage. Our high school engineering team from Mayfield HS placed fourth in the nation. Our middle school team from Red Mountain Middle School out of Deming placed third in the nation. Our motto of "raising the bar" fueled interest and dedication to next year's challenge. We know we are successful and achieving when members of our national teams are made up of students from the under-represented population, low socio-economic statuses, and rural villages/communities.

We are thankful to our students, schools, state legislators, corporate partners, federal congressional delegation and staff, universities, colleges, volunteers, individual donors and others for supporting our mission to "Empower and motivate New Mexico's culturally diverse students with science, technology, engineering, and math (STEM) enrichment."

NM MESA is the oldest pre-college STEM enrichment education program in New Mexico and we strive to maintain this standing, serve our customers, and engage our partners and other supporters to assist in the achievement of the state and national goal of growing the workforce and citizens of the future.



**Toney Begay**  
**Executive Director**  
**NM MESA, Inc.**





# From the **PRESIDENT OF NEW MEXICO TECH**

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I am very pleased to extend my sincere thanks and appreciation to the New Mexico Mathematics, Engineering, Science Achievement (MESA) program, for your contributions toward providing opportunities to our state's most promising middle school and high school students. From the board of directors to the staff, MESA stands as a vanguard in educational enrichment.

New Mexico Tech is proud of its continuing partnership with MESA as we both work to ensure that future generations of New Mexicans are prepared for leadership roles in hightech careers. In doing so, we encourage a strong academic foundation in the critical areas of mathematics, science and engineering. Many studies have shown that the United States is falling behind the rest of the world in math and science education. MESA is a model program for interesting New Mexico youth in these disciplines.

This year, Red Mountain Middle School from Deming and Mayfield High School in Las Cruces won the statewide competition and represented New Mexico at the national event. We congratulate them on their success at nationals!

MESA has provided our state universities and colleges with some of the brightest students New Mexico has to offer. The seeds planted by MESA have propelled thousands of underserved students into productive careers and personal enrichment.

Once again, I commend the Mathematics, Engineering, Science Achievement program for standing as a beacon of achievement in the vital educational areas.



A handwritten signature in black ink that reads "Daniel H. López". The signature is stylized and cursive.

**Daniel H. López, Ph.D.**  
**President**  
**NM Tech**



# WHO WE ARE

## Competition-STEM

Competitive activity for students that challenges their knowledge and understanding of STEM

- RoboRave
- Innoventure
- Supercomputing
- BEST Robotics
- CyberEChallenge
- Alternative Fuels Challenge
- NM Electric car challenge
- MESA Day
- MESA USA National Engineering Design Competition
- AFRL's STEM Challenge Flight
- UNM-PNM Statewide Mathematics Contest
- Envirothon
- Science Olympiad
- School Science Fair
- Explora

## Workshop/Speaker

### WORKSHOP:

Workshops held at the MESA school to help students and Advisors prepare for any STEM competition including MESA Day and MESA USA.

### SPEAKER:

The Advisor arranges for a Guest Speaker to come to the school to speak to the MESA students about STEM subjects.

### SCHOOL WORKSHOP / SPEAKER

Special events planned for MESA students in which they learn specific skills and/or have the opportunity to hear a presentation by an invited speaker on a topic in alignment with MESA goals

- Cyber security in the Marines
- Park Ranger
- Animal Humane Society
- Hot Air Balloon Demonstration
- Entymology workshop
- Math Moves U Event
- Neuro Anatomy - Form and functionality basics
- Artesian Conservation Department
- New Mexico Ag Department
- Beaver Studies
- DOD/AF Research Labs
- AMP Event Workshops
- Albuquerque Astronomical Society
- Carbon Sequestration
- Diabetes education
- NM AMP student Research Conference







## Field Trip

### COLLEGE VISIT:

A planned trip to a college to learn about admissions, requirements and opportunities in their next step in education.

### TRIP TO STEM BUSINESS

An activity planned by Advisors for their students; the students travel away from their schools in order to experience new or novel STEM related information and learning.

- New Mexico Tech
- New Mexico Highlands University
- Luna Community College
- Petroglyphs
- Senior Incentive Field Trip to Orlando
- Santa Fe Community College
- St. Johns College
- Atomic Museum
- University of New Mexico
- Bandalier National Park
- Valles Caldera
- National Nuclear Science Museum
- Very Large Array
- Oil & Gas Career & Education Fair
- White Sands Missile Range
- New Mexico State University
- New Mexico State Legislature

## Service Learning

An activity planned by Advisors in which students volunteer time and effort in projects benefiting their school or their community.

- Duke City Marathon
- Food Drive Give Back
- Light the Night Walk
- Helped at the planetarium and with the astronomy club at the Roswell Block Party
- "Get Legs" give back project
- Disease Prevention Poster
- Donations for Kenya
- Food and clothing bank at Casa Esperanza
- Raised money for Animal Humane
- Create cards to send to military troops
- Veterans Drive
- School Cleanup
- Community Service At Rio Mora Refuge

## Other Activities that NM MESA Students participated in:

### Fundraising

An activity which allows the group to earn money for use in MESA related activities.

### Leadership

An activity in which MESA students are exposed to personal or leadership development information.

### Student Meetings

The recurring (weekly) meetings held at each MESA school for the MESA students. Agenda is typically club business, preparation for upcoming competitions and other STEM related activities.

# MESA SCHOOLS

## Central Inner (16)

- Albuquerque HS
- Amy Biehl HS
- Cleveland MS
- Del Norte HS
- East Mountain HS
- Garfield MS
- Highland HS
- Jefferson MS
- Kennedy MS
- Manzano HS
- McKinley MS
- nexGen Academy
- South Valley Academy
- Taft MS
- Valley HS
- Van Buren MS

## Central Outer (17)

- Atrisco Heritage Academy HS
- Belen HS
- Belen MS
- Cibola HS
- Ernie Pyle MS
- Jimmy Carter MS
- John Adams MS
- Los Lunas HS
- Magdalena HS
- Polk MS
- Rio Grande HS
- Sarracino MS
- Socorro HS
- Taylor MS
- Truman MS
- Volcano Vista HS
- West Mesa HS

## North Central (13)

- Bernalillo HS
- Bernalillo MS
- Capshaw MS
- Carlos F. Vigil MS
- Cochiti MS
- Espanola Valley HS
- Mesa Vista HS
- Mesa Vista MS
- Pecos HS
- Pojoaque Valley HS
- Santa Fe HS
- Santo Domingo MS
- Tierra Encantada

## Northern (14)

- Anton Chico MS
- Memorial MS
- Mora HS
- Mora MS
- Penasco HS
- Penasco MS
- Robertson HS
- Santa Rosa HS
- Santa Rosa MS
- West Las Vegas MS
- West Las Vegas Valley MS
- Springer HS
- Springer MS
- West Las Vegas HS

## Southeastern (16)

- Alamogordo HS
- Artesia HS
- Berrendo MS
- Carlsbad 6th Grade Academy
- Carlsbad HS
- Carlsbad Intermediate School
- Chaparral (Gadsden) MS
- Goddard HS
- Holloman MS
- Mt. View (Alamogordo) MS
- Mt. View (Roswell) MS
- Portales HS
- Portales Junior High
- Roswell HS
- Ruidoso HS
- Ruidoso MS

## SouthWestern (15)

- Alta Vista Early College
- CC Snell MS
- Centennial HS
- Chaparral (Gadsden) HS
- Cobre HS
- Deming HS
- Deming Intermediate
- Gadsden HS
- Gadsden MS
- Las Cruces HS
- Lynn MS
- Mayfield HS
- Oñate HS
- Red Mountain HS
- Vista MS

## Western (15)

- Crownpoint HS
- Crownpoint MS
- Gallup HS
- Grants HS
- John F. Kennedy MS
- Laguna Acoma HS
- Laguna Acoma MS
- Los Alamos MS
- Mesa Alta JHS
- Miyamura HS
- Navajo Preparatory High School
- Thoreau HS

Source: MESA Information Management System



# MESA REGIONS

**CENTRAL INNER**  
Albuquerque

**CENTRAL OUTER**  
Albuquerque  
Belen  
Los Lunas  
Magdalena  
Socorro

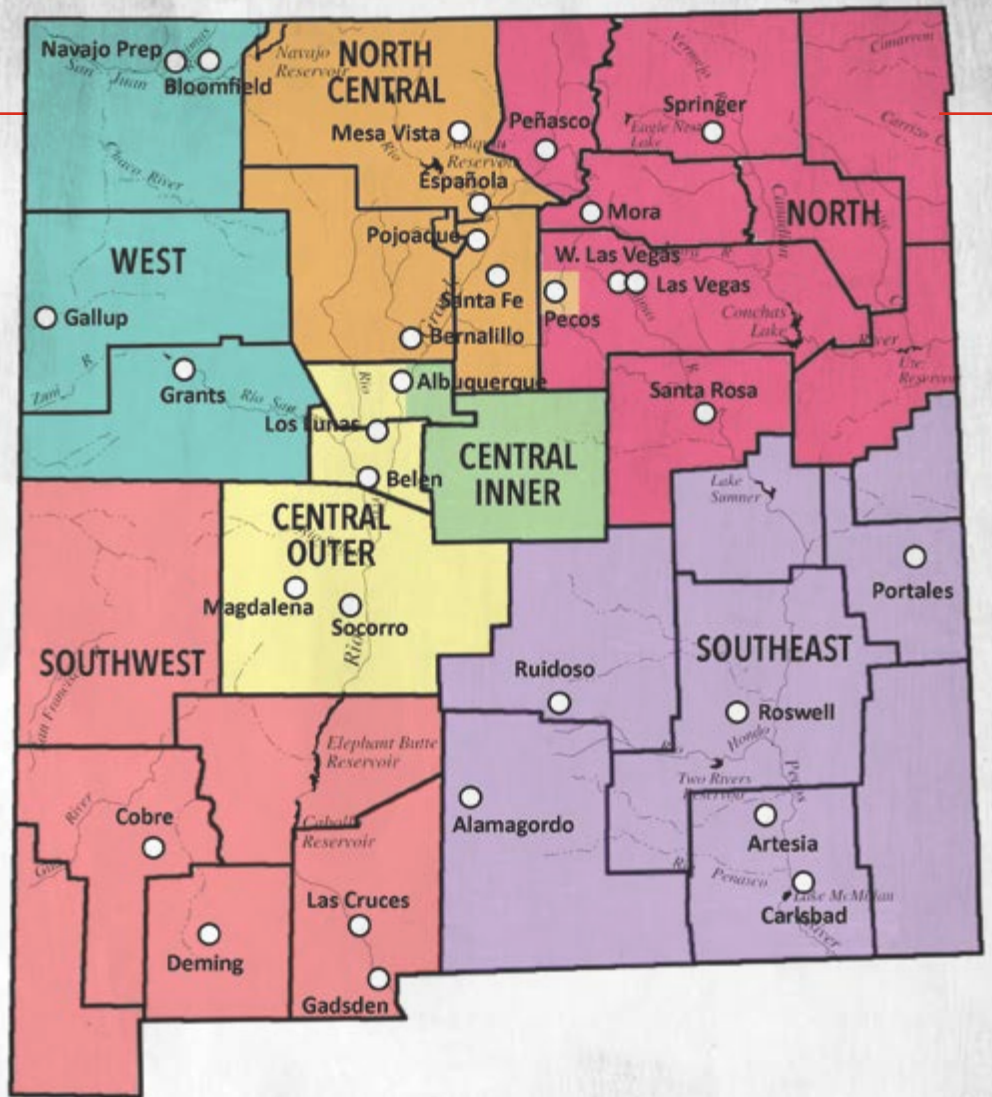
**NORTH CENTRAL**  
Bernalillo  
Española  
Mesa Vista  
Pecos  
Pojoaque  
Santa Fe

**NORTH**  
Las Vegas  
W. Las Vegas  
Mora  
Peñasco  
Santa Rosa  
Springer

**SOUTHEAST**  
Alamagordo  
Artesia  
Carlsbad  
Portales  
Ruidoso  
Roswell

**WEST**  
Bloomfield  
Gallup  
Grants  
Los Lunas  
Navajo Prep

**SOUTHWEST**  
Cobre  
Deming  
Gadsden  
Las Cruces



Source: MESA Information Management System





# STUDENT DEMOGRAPHICS



Female



Male

## STUDENT DIVERSITY

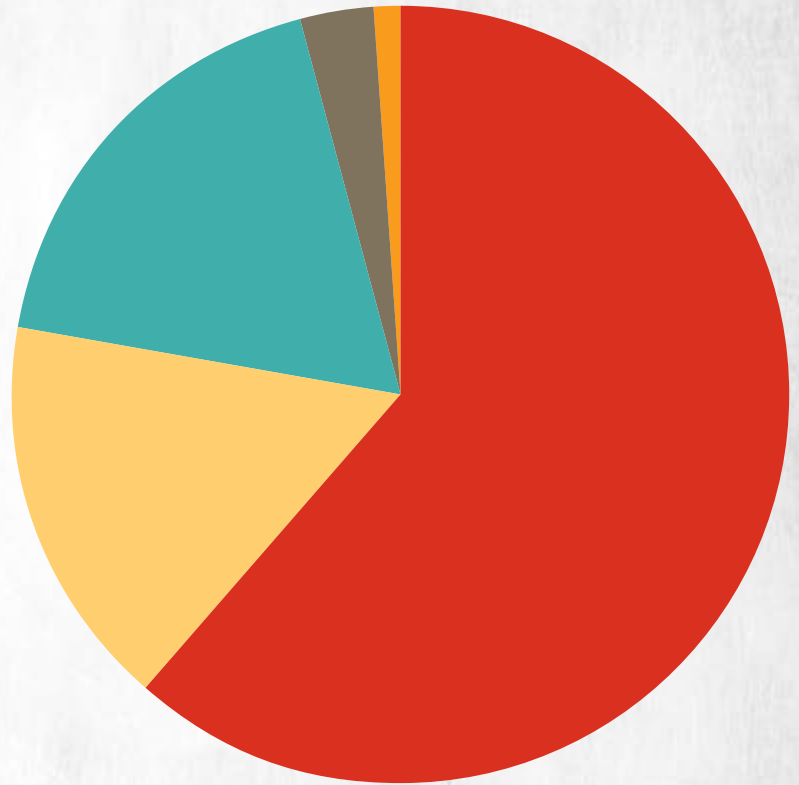
61% Hispanic (Spanish culture of origin)

18% Anglo (not Hispanic Origin)

16% American Indian or Alaskan Origin

3% Asian or Pacific Islander

1% Black (not Hispanic Origin)



Source: MESA Information Management System





# COLLEGES ATTENDING

University of New Mexico	36	Harvard	1
New Mexico State University	29	Lubbock Christian University	1
New Mexico Institute of Mining and Technology	20	Embry-Riddle Aeronautical	1
New Mexico Highlands University	12	University (Prescott, Az)	1
Eastern New Mexico University	6	Massachusetts Institute of Technology	1
Central New Mexico Community College	6	Adams State University	1
Northern New Mexico Community College	2	Navajo Technical University	1
Luna Community College	2	Western New Mexico University	1
San Juan College	2	Pima Medical Institute	1
Texas Tech University	2	Southern Oregon University	1
University of Central Florida	2	Southwest University of Visual Arts	1
Columbia University in the City of New York	1	The University of Arizona	1
Colorado State University	1	University of California, Irvine	1
Florida Institute of Technology	1	University of Northern Colorado	1
Bryan College	1	University of Pennsylvania	1
Austin Community College	1	University of Southern California	1
Fort Lewis College	1	Utah State University: Eastern Campus	1
Georgetown University	1	Metro State University	1

Source: MESA Information Management System

# MAJORS DECLARED

Biology	24
Mechanical Engineering	13
Computer Science/Engineer	11
Civil Engineering	8
Chemical Engineering	6
Electrical Engineering	5
Nursing	3
Engineering Physics	3
Business Administration	3
Aerospace Engineering	3
Psychology	3

Source: MESA Information Management System



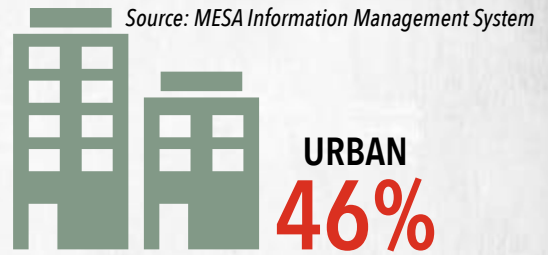
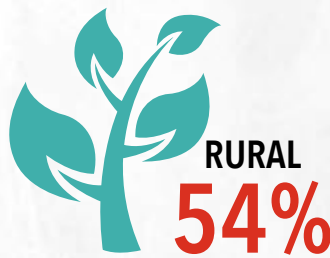
# GRADE LEVEL



# GEOGRAPHIC LOCATIONS

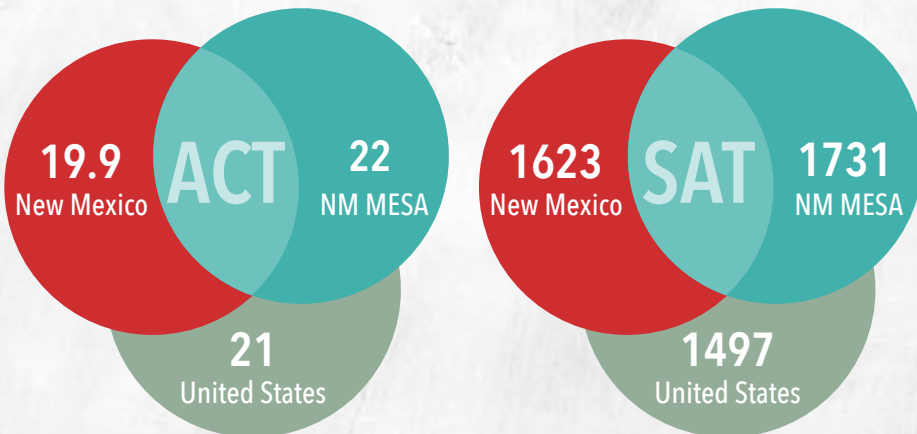


54% of NM MESA Students live in rural New Mexico.  
This is over 100% more than the State average (23%)



# SENIOR ACADEMICS

## AVERAGE SCORES FOR 2014 - 2015



SOURCE:  
[www.act.org/newsroom/data/2014/states.html](http://www.act.org/newsroom/data/2014/states.html)  
[blog.prepscholar.com/average-sat-scores-by-state-most-recent](http://blog.prepscholar.com/average-sat-scores-by-state-most-recent)  
[www.washingtonpost.com/apps/g/page/local/sat-scores-2015/182/](http://www.washingtonpost.com/apps/g/page/local/sat-scores-2015/182/)



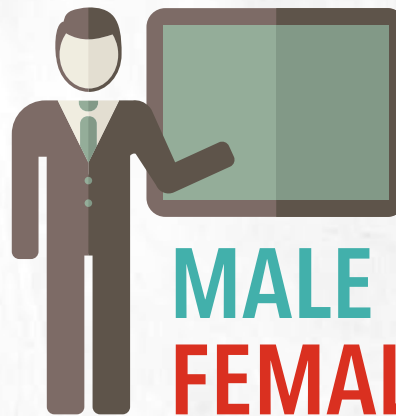
# HOURS STUDENTS PARTICIPATED

Fundraising	1738
Leadership	3317
Service Learning	4105
Field Trip	2824
Workshop/Speaker	9161
Student Meeting	27993

Source: MESA Information Management System



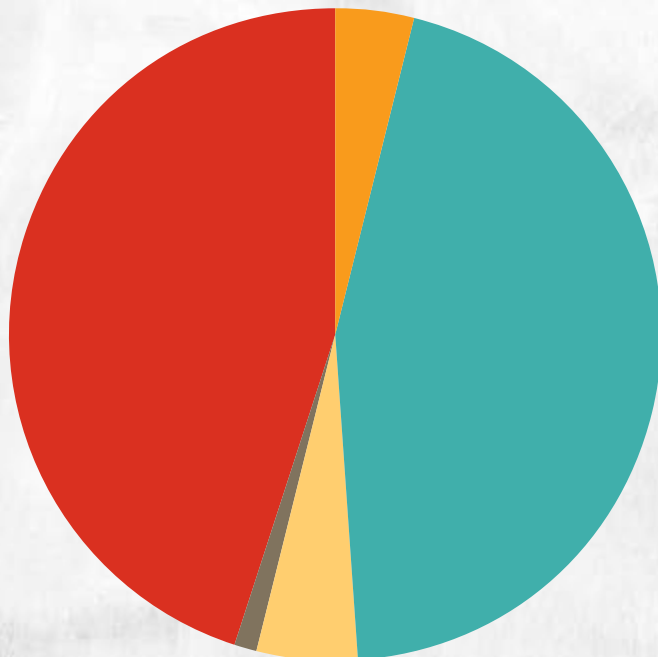
# ADVISOR STATISTICS








660 years of combined service  
4.6 years average length of service

**MALE 41%**  
**FEMALE 59%**

Source: MESA Information Management System



# ADVISOR ETHNICITY

	American Indian or Alaskan origin	4%
	Anglo (not Hispanic origin)	45%
	Asian or Pacific Islander	5%
	Black (not Hispanic origin)	1%
	Hispanic (Spanish culture of origin)	45%

Source: MESA Information Management System

# ADVISOR TESTIMONIALS

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*One of my bilingual students who struggles academically tried (and admitted to trying) harder and saw his grades improve. He told me he wanted to get better at school work this year because of MESA. Another student who is bright but very dyslexic also worked very hard each grading period to stay eligible "just in case" MESA was going to do something fun!*

.....

*I have a student that is a kinesthetic learner and does poorly in a typical academic setting. In MESA he has realigned his self-worth and improved his grades in science and math! MESA has given him an appreciation for these subjects and learning.*

.....

.....

*A student I taught last year joined MESA this year. He did not have a lot of confidence in his academic abilities and was very shy. Since joining MESA he has become more confident and feels good at science. The grade requirements keep him successful in other classes because he wants to stay in MESA. He will be traveling to Oregon this summer for the MESA USA competition.*

.....

*Many of my MESA students are now successful college students or recent college graduates that are now coming back to give back to my class. They have presented on either college success, anacondas, or what it is like to succeed in the "real world" There is not one success story but rather too many to mention. Recently two of my former MESA students just got their medical degrees.*

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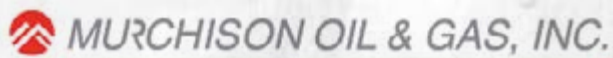
# STATEMENT OF FUNCTIONAL EXPENSES

	PROGRAM SERVICES	G&A	FUNDRAISING	TOTAL
Salaries	496,775	137,079	12,824	646,679
Taxes & Benefits	91,906	25,757	2,074	119,738
Field Trips	187,790			187,790
Professional/Consultant	31,400	57,751	0	89,151
Travel	91,503	18,294	1,412	111,209
Loyalty Awards	109,500			109,500
Training & Development	749	12,290		13,038
Program/Event Services	3,622	5,851		9,473
Supplies	35,578	4,336		39,914
Occupancy		5,710		5,710
Meetings & Conferences	23,730	1,066		24,795
Equipment Expenses		2,655		2,655
Telephone	12,749	10,686		23,435
School Activities	25,550			25,550
Other	106,737	27,362	546	134,645
<b>TOTAL EXPENSES</b>	<b>1,217,589</b>	<b>308,837</b>	<b>16,857</b>	<b>1,543,283</b>

## ACHIEVEMENTS

- NM MESA, Inc. was voted one of the 2014 Best Places to Work in New Mexico.
- The Senior Incentive Field Trip for this year was to Orlando, Florida. 34 seniors and 4 advisor chaperones from the NM MESA Programs statewide were selected.
- New Mexico MESA teams do very well at the 2015 MESA USA National Engineering Design competition. Red Mountain Middle School finishes third overall with a first in Design efficiency and second in Object Relocation tasks. Mayfield High School finished third in Academic Display, first in Distance Accuracy, and second in Design Efficiency.
- NM MESA delivers workshops at the 2015 2nd Annual New Mexico STEM Symposium in Albuquerque.
- NM MESA, Inc. and New Mexico State University (NMSU) hosted its inaugural Agriculture Education Fair on Tuesday, April 14, 2015, at New Mexico State University in Las Cruces.
- 11 MESA Students to each receive a \$500.00 New Mexico Oil and Gas Association (NMOGA) Scholarship.
- NM MESA was a guest on the Energy New Mexico Radio Show.
- NM MESA Student Presents Research at the 2014 AMP Conference.
- NM MESA Students from around the state participated in the Summer enrichment program that involved a research project and concluded with a presentation of their findings at the Air Force Research Laboratories La Luz Academy.

# DONORS



## Other Donors Include the Following:

BPOE #408  
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 Environmental Standards  
 First Community Bank  
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Kurt Steinhaus  
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 Elena Garcia  
 Great Western Drilling  
 Rick Shumard  
 Taking Talons  
 Jacobs Technology Inc., LC



# STUDENT TESTIMONIALS

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William Bowman, Carlsbad HS

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The New Mexico MESA program has greatly impacted my life as well as greatly affected my decision making for the future. If it wasn't for MESA, I don't think I would have been introduced to the world of engineering. Thanks to MESA, I have decided to go into the Engineering field as a mechanical engineer.



The experiences I have had with MESA are second to none. MESA has allowed me to meet so many new people from around the state. See so many things that have influenced my life. MESA has also taught me to think outside the box. To try to look at problems from all angles and figure out a solution. It has taught me it is okay to fail, as long as you learn from it and continue on. That just because it didn't work the first time, doesn't mean it isn't going to work the second. It has taught me to always keep trying until you have reached your goal, and to never give up until you have.

I suggest MESA to everyone curious about it. Without it I wouldn't have taken the classes I did in high school. It urged to me further my knowledge in math and science. Inspiring me to take two years of calculus and Physics-C. That is the impact MESA had on me, to always do better. To always be learning and always learning to learn.

Luke Klaus, Carlsbad HS

---

Hello, my name is Luke Klaus, and I am an engineer. I might not have a degree yet, but I know that is what I am. Ever since I was young, I was always tinkering with something, taking things apart and figuring out how they worked. But, without MESA, I don't think I would have ever found out what it was that I am, let alone be the same person I am.

I am the product of seven consecutive years of MESA. It all started in 6th grade, when honestly I had no idea what MESA even was until I went to an assembly for it. Ever since then, I have never stopped going. I fit right in there and felt at home. I was able to learn, express myself, and mature. I learned how to lead, I learn how to be lead, and most importantly, I learned how to work as a team.

With MESA, I have been able to travel all over the state and country. Without MESA, I wouldn't have met Mr. Armijo or Mrs. Haggerton, people who have been great mentors and role models in my life. I wouldn't have been in her engineering classes. As a result of meeting these people, I would have the proper discipline or respect for the science and math to be able to excel in those classes.

MESA has probably been one of, if not the most important decisions in my life. Without it, I don't know who I would have become. So I would Like to thank you, for making me....Me.



# STUDENT TESTIMONIALS

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Ryan Wardell, Volcano Vista HS

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I joined MESA my freshman year, and since then I have grown to understand and enjoy the real life applications of math and science in the broad field of engineering. MESA has allowed me to implement the things I love and it has led to me deciding on what I plan to be when I grow up. I plan on becoming an Aerospace Engineer and MESA has allowed me to decide that engineering is the perfect field for me to enter, for it has shown me that with math and science, anything can happen. I have also learned from MESA how to be a leader and how to stay organized while taking the steps necessary in the process of designing and constructing, in order to allow for a project to be completed and functional. MESA has taught me to be diligent in my work and productive in my actions, having an impact on the path I plan to follow in the next stage of my life.



Nicole Atencio, Miyahara HS

---

Before joining Math Engineering Science Achievement (M.E.S.A) Club, during my junior year, I felt like I was a really antisocial, inactive student who only did enough to get by. While in M.E.S.A, I have met some really intelligent kids that were interested in similar things that I was. Building contraptions or creating systems for example. Seeing that those kids enjoying doing those things made me even more glad to participate in the activities. Not before long, I was becoming more social and proactive. I was becoming more verbal and expressive about my thoughts and feelings. Soon enough people actually wanted to sit by me, talk to me, and hang out with me.

M.E.S.A. has also sparked my creativity and has helped me see that I like to paint and design things. M.E.S.A. has helped me develop skills that have been quite handy in helping others. For example, in repairing a washing machine or finding a way to redirect water effectively. Above it all, M.E.S.A. helped me realize that I really like getting involved in school and my community. Now I'm in various clubs in and out of school and I volunteer where I can. All of this has helped prepare me to getting ready for college. Because of M.E.S.A., I now know that I want to major in science. M.E.S.A. is the impetus of my current dedication and drive to get things done.

Jacob Wardell, Volcano Vista HS

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MESA has been a huge impact on my life. I joined the club as a freshman and have learned so many different things while being a member of MESA. I learned how to work in a team effectively, learn from my mistakes, accept failure as an opportunity to fix it and try again, and to stay organized. While being a member I have created some really good friendships and learned from some very influential teachers. I have learned what success feels like as well as failure, and I learned how wonderful a feeling it is to see ideas originally on paper transform into a prototype and later into a working design. MESA helped me apply my physics and math skills and really grow to love engineering, and now that's the field I want to join and work in. MESA has had a huge impact on my life by helping me develop and form a good work ethic. Without MESA I wouldn't have chosen engineering as a career path.



# 2015 NM MESA BOARD OF DIRECTORS

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## MESA EMERITUS MEMBERS

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New Mexico Institute of Mining  
and Technology

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Debra Lett (Alternate)  
Valley High School Advisor

Sondra J. Lawson (Active Member)  
Jimmy Carter Middle School Advisor

Toney Begay  
Executive Director



# OUR PARTNERS



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Fax: 505.366.2529  
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