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## Water in New Mexico

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### 2012 - NMAS Annual Meeting and Distinguished Lecturer

Save the date  
December 1, 2012

And plan to join us for the NMAS annual meeting, banquet, award ceremony, and distinguished lecture. Events begin with dinner at 6pm at the NM Museum of Natural History and Science. More information will be in the next NMAS newsletter.

This year, we are honored to have as our distinguished speaker,

**John Fleck**  
Science Writer and Author  
*discussing*

***“Water in New Mexico:  
Problems of Scarcity,  
Searches for Solutions”***

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### NMAS Members

We have added a feature to the NMAS website listing science events, notices for science fairs, and other events requesting judges. One of the best ways we can help meet our NMAS goal of enhancing science education in NM is to be out there with the students and teachers. Let them know you are with NMAS and invite them to join. *Visit the site often to see what is happening with science in NM!*

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### Time to Pay Membership Dues!

If you have already paid your dues for 2012, THANK YOU. If you have not yet paid your dues, please fill out the form on page 7 and send the dues to NMAS.

### NMAS Awards Outstanding New Mexico Science Teachers for 2011

NMAS recognized two Outstanding NM Science Teachers in November, 2011, chosen from nominations statewide. Cash awards were generously contributed by the American Chemical Society and NM Optics. Classroom materials were presented by the NM Museum of Natural History and Science.

**Barbara Mullis**  
Los Alamos Mid School,  
Los Alamos, NM

**Brian Montoya**  
Puesta del Sol Elem School  
Rio Rancho, NM

*See Page 6 for more information on these  
outstanding teachers!*



Left to Right: Brian Montoya, Barbara Mullis, Marvin Moss, President NMAS, Jayne Aubele, NMMNHS representative, Harry Pomeroy, NMAS Awards Chair, Donovan Porterfield, American Chemical Society representative

### DID YOU KNOW?

**NMAS Members:** We are looking for NMAS officers and an NMAS newsletter editor. If you are interested, contact any officer or board member listed on page 2.

For more information go to [www.nmas.org](http://www.nmas.org)



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## NMAAS MEMBER NEWS...

**Congratulations** to NMAAS Past-President and current Director-at-Large, Angela Wandinger-Ness, Ph.D., on her election as a Fellow of the American Association for the Advancement of Science (AAAS).

Dr. Wandinger-Ness, Professor of Pathology at UNM, was recognized for her distinguished service in cell biology and kidney disease research, development of innovative training programs, and public service to the New Mexico Academy of Science.

## WELCOME

### NMAAS Life Members

Dr. Mark Boslough  
Dr. Richard Nygren

## Our Thanks to those who have made donations to NMAAS

### Endowment Donations - 2012

David Duggan  
Dr. Richard Nygren  
Dr. Angela Wandinger-Ness

### Endowment Donations - 2011

Dr. Mercedes Agogino  
Hal Behl  
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Dr. Mel Eisenstadt  
Jim Gooding  
Dr. Marvin Moss  
V Rama Murthy  
Dr Richard Nygren  
Vincente Romero  
Dr. Beulah Woodfin

### Other Donations - 2011

Dr. Marvin Moss  
Harry and Mona Pomeroy  
Charles Walter

## Our sincere sympathies

to the families of the following NMAAS members who died during the past year:

Dr. Walter Lwowski of Las Cruces  
Dr. Sidney Stone of Albuquerque

NMAAS Newsletter  
Volume 98, no. 1&2  
Spring/Summer, 2012

### Newsletter Editor:

Jayne C. Aubele  
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And Science  
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## NEW MEXICO ACADEMY OF SCIENCE

Founded in 1902 to foster scientific research and scientific cooperation, increase public awareness of the role of science in human progress and human welfare, and promote science education in New Mexico.

The Academy has been in continuous existence since 1915, and became formally associated with the New Mexico Museum of Natural History and Science in 1995.

*Affiliated with the American Association for the Advancement of Science (AAAS)*

*Member of the National Association of the Academies of Science (NAAS)*

## President's Message - August 2012

### Jesse Johnson

#### The Year of Water

Just recently, a Texas judge ruled that “the sky belongs to everyone.” That is another way of saying that the atmosphere is to be held in the public trust. Another lawsuit, similar to the one in Texas, is currently before New Mexico’s First Judicial District Court. The thrust of the two lawsuits, along with several others around the country, is that the atmosphere is a public resource and accordingly, the state has a duty to protect that public resource. This is part of a much larger issue that, depending on the forum, can be legal, political or scientific in nature: Anthropogenic global warming.

Delving into global warming in a political forum can be a morass and a mess, and all of the legal implications have yet to be ironed out. It has however, been settled by legitimate peer reviewed scientific research that global warming is happening and it is largely driven by human activities. We humans are producing large quantities of greenhouse gases in our daily lives and those gases are trapping heat in our atmosphere. As a result, climate patterns will change and in fact are changing, and these changes are not limited to just the daily high and low temperatures; where rain falls and how much rain falls is going to change.

New Mexico is going to change too. Projections for us indicate that our current drought will continue until around 2050CE, after which, it will get worse, due in no small part to global warming. Water is a very serious issue in the Land of Enchantment and will only become more so in the future, especially with increasing population pressure. Like global warming itself, water use here can be a legal or political issue, as well as a scientific issue.

In fact, our guest speaker for the 2012 NMAAS banquet, John Fleck of the Albuquerque Journal, recently authored a news article about a battle over water rights in New Mexico. The Federal Government is claiming that it should be entitled to New Mexico’s “water in the ground that is necessary for deliveries downstream.” We have an already strained water supply and everybody wants their share. The strain is only going to get greater.

Most people probably don’t give water a second thought, except for when they’re thirsty. Then they can turn on a tap and fill their glasses or go to the store and purchase bottled water. It is always there when we need to quench our thirst. Much like air, it does not seem important until you don’t have any, yet is important regardless of how much attention it garners from your average person. Water is necessary for growing crops and raising livestock, making it of vital economic importance. It is here that we are feeling water shortages first as our farmers have been among the first to notice inadequate supplies of water.

Scientists and scientific organizations are going to have to do their part in order to determine what will happen and what can be done to mitigate many of the harmful effects of the water shortages that we will be facing. Our law makers and courts will need to be able to make informed decisions, and that starts with the science. It is a very complex issue that, for better or worse, is not limited to the scientific arena. Decades of legal precedent exist and these precedents are not going to always align themselves with the current scientific consensus on the immediate issue. The science itself can get very complex because of the many factors that have an effect on our water supply. Yet all of this complexity makes for a very rich subject that can offer something of interest to a very wide range of people.

Because of its importance, NMAAS has decided to make this the year of water. Our Journal of Science will be focusing on water issues in New Mexico in order to bring light to the issue by covering many of the scientific issues and possibly some of the legal issues. Our aforementioned guest speaker, John Fleck, will be talking about water issues in New Mexico at our annual banquet. His talk promises to be engaging as he is a journalist who understands science very well and also follows the other related issues surrounding water in New Mexico.

I hope to see you at the banquet!

## 2012 State NMJAS Paper Competition Winners

Lynn Brancvold, Director, Junior Academy of Science and NAAS Delegate

Cash awards were provided by a grant from Sandia-Lockheed Martin.  
The New Mexico Academy of Science would like to thank the NMJAS  
2012 Regional Directors for their service to this program

### Senior Division

#### First Place

Nikita Bogdanov

*Characterizing the Effects of Asteroid Belt Perturbations on the  
Orbits of Inner Planets*  
Albuquerque Academy  
Albuquerque, NM

#### Second Place

Serina Lee Pack

*What Will Grow: Native Grass Research to Assist in  
Mining Reclamation*  
Cliff High School  
Silver City, NM

#### Third Place

Elias Clark

*Modeling the Removal of Hazardous Gases in Buildings Using  
Lattice-Boltzmann Methods*  
Cibola High School  
Albuquerque, NM

### Junior Division

#### First Place

Lydia Raymond

*How Vocal Fold Properties Influence Voice Pitch*  
Raymond Home School  
Edgewood, NM

#### Second Place

Megan Risner

*Can Human Interaction Affect the Performance of Shelter Dogs on  
Mental and Behavioral Tests?*  
Heights Middle School  
Farmington, NM

### Honorable Mentions

EliseAnne Koskelo

*Does Architecture Tamper with Temperature?*  
Los Alamos Middle School  
Los Alamos, NM

Edward Park

*Solar Energy Conversion*  
Sierra Middle School  
Las Cruces, NM

Ruby Selvage

*Rosemary Recall*  
Pinon Elementary School  
Los Alamos, NM

## Senior Division First Place Winner Abstract

**Characterizing the Effects of Asteroid Belt Perturbations on the  
Orbits of the Inner Planets**  
Nikita Bogdanov  
Albuquerque Academy

The planets of the solar system are subject to multiple gravitational perturbations from other solar system bodies including other planets, large asteroids (as discrete point masses), and small asteroids (cumulatively). The largest uncertainty in our knowledge of the orbits of the inner planets (Mercury, Venus, Earth, and Mars) is due to gravitational perturbations from the complicated and uneven mass distribution within the asteroid belt (e.g., masses of asteroids range over many orders of magnitude). The goals of this project are to computationally model the effects of perturbations from the 300 largest asteroids on the orbits of the inner planets; specifically, this project looks to characterize the perturbative effects as a noise problem, which is a novel approach. In order to do this, I have created a numerical integration framework that models Newtonian solar system interactions. Initial integrations show that numerical red noise is orders of magnitude below asteroid gravitational perturbations. I analyze these perturbations by comparing integrations with and without specific subsets of perturbing asteroids. To analyze orbital element residuals I use power spectra. These yield the frequencies and amplitudes of the gravitational perturbation signals and are the first step to characterizing perturbations from a noise perspective. I find that the power spectra can exhibit red noise at low frequencies and reach a noise floor (white noise) at higher frequencies. White noise precludes the knowledge of planetary motion at the sub-meter to meter level, an original result. Tools to discriminate between chaotic and stochastic motion will be employed in future work.

## Rio Grande Chapter AVS Science & Technology Society Winners

The AVS Science & Technology Society, formerly the New Mexico Chapter of the American Vacuum Society, sends judges and selects its own winners in the paper competition and awards prizes to these winners as well as to their teachers/sponsors. The New Mexico Academy of Science is very grateful for their support.

### Senior Division First Place

Nikita Bogdanov  
Albuquerque Academy, Albuquerque  
School Sponsor: Jim Mims

### Second Place

Serina Lee Pack  
Cliff High School, Cliff  
School Sponsor: Katie Skaggs

### Junior Division First Place

Megan Risner  
Heights Middle School, Farmington  
School Sponsor: Kellee Brandenburg

### Second Place

Ruby Selvage  
Pinon Elementary, Los Alamos  
School Sponsor: Ryan Ross

**National Youth Science Camp 2012 Program  
for Two Graduating NM High School Seniors  
With All Expenses Paid**

*Richard Nygren, NYSC-NM Coordinator*

Two New Mexico high school seniors who are interested in science have been selected for an all-expenses- paid, month-long stay at the National Youth Science Camp (NYSC) in West Virginia's Potomac Highlands from June 27 - July 21, 2012.

**The New Mexico delegates for 2012 are:  
Jeffery Gao, Albuquerque Academy, Albuquerque  
Megan Moore, Silver City High School, Silver City**

**Alternates for 2012 are:  
Anthony Zhang, Albuquerque Academy, Albuquerque  
Danielle Lara, Carlsbad High School, Carlsbad**

Each year in the summer following graduation, two New Mexico high school seniors attend an intense month- long camp for young scientists. The NYSC program pays all expenses for the students including airfare. The New Mexico Academy of Science (NMAS, <http://www.nmas.org>) administers the National Youth Science Camp (NYSC) program in New Mexico. NMAS judges select the delegates based upon their academic achievement, leadership in school and community activities, and a genuine interest in the sciences.

*Thank You Letter from 2011 NM Delegate, Lloyd Zhao.*  
"I would like to begin by thanking everyone at NMAS for giving me the opportunity to be a part of NYSC. The camp truly changed my outlook on my life, those of others, and the role that nature plays in all of our lives. Being a "lab rat," I had had few opportunities in work to interact with the wilderness and organisms I was trying to "improve." ... [NYSC] opened me to a whole world of surprises that excited me and illustrated what I had missed for so long. Indeed, I learned to live by one of our bedtime quotes, "For yesterday is but a dream and tomorrow is only a vision. But today, well lived makes every yesterday a dream of happiness and every tomorrow a vision of hope."- Sanskrit Proverb. Though NYSC impacted me in many ways from new friendships to an increased interest in language and a new found care for the well preserved wildlife in the hills of West Virginia, it indeed instilled in me, beyond anything else, a belief that the life most worth living is the present and in truly living in the present."

## 2012 New Mexico Journal of Science

The 2012 NM Journal of Science will be on the theme of New Mexico's Water Resources (which will also be the theme of this year's annual meeting). Submissions are due around the beginning of August and publication is anticipated for late fall.

If you are interested in submitting a research paper, please contact Dr. Kurt Anderson, at [kurt@nmsu.edu](mailto:kurt@nmsu.edu) for author information and deadlines.

## Simple Steps Can Help NMAS Grow Promote Science Research and Education in New Mexico

*Ruth Duggan, NMAS Board Member-Publicity*

It's a new year for NMAS and a new century for New Mexico. NMAS has the unique opportunity to encourage science principles in New Mexico science education. , What can you do to help? I have outlined 7 tasks for everyone to help NMAS grow and be more successful in its mission of promoting science research and education in New Mexico.

Task 1 - make sure your 2012 dues are paid up now, not at the end of the year. It helps us know what our budget can do. Consider becoming a life member or making a tax-deductible donation to the endowment.

Task 2 - send us an email address where we can reach you. It saves NMAS postage for postcards and newsletters to connect with everyone. If you don't have an email address, send us a note stating that so we can look at alternatives for communication.

Task 3 - invite a friend, colleague, or family member to join you in NMAS. If every member got at least one more member to join, we would double in size! Think of the possibilities!

Task 4 - contact your legislator to get the Visiting Scientist Program back in the budget. The outreach and benefits of this program make the small \$25,000 investment well worth it!

Task 5 - get engaged with the youth. Become a science fair judge, help with the student paper competition, or just help a student through outreach, tutoring, or speaking at a school on career day. Let us know how you are helping students with science. It help us show how the organization is making a difference!

Task 6 - get involved. We will be conducting surveys to better understand the topics of greatest importance to New Mexico and the relevance of science in meeting those challenges. Come to the annual meeting. Tell us what interests you so we can find lecturers to engage on the subject.

Task 7 - put NMAS in your will. A contribution to the endowment will be a lasting gift to NMAS.

These are but seven ways you can make NMAS stronger. Please feel free to contact me at [radjeep@comcast.net](mailto:radjeep@comcast.net) with your suggestions. Let's make 2012 the most engaging year year

## NMAS Outstanding New Mexico Science Teacher Named Outstanding Earth Science Teacher for 2011 by NAGT

Bonnie Dodge, of Infinity High School in Belen, one of the NMAS 2010 Outstanding New Mexico Science Teachers, has been named the Outstanding Earth Science Teacher, Southwest Section, for 2011 by the National Association of Geoscience Teachers (NAGT). Congratulations Bonnie!

## The 2011 NMAAS Outstanding Science Teacher Awards

Harry F. Pomeroy, Jr.  
Awards Chairman, NMAAS

**Barbara Jo Mullis**  
Los Alamos Middle School  
Los Alamos, New Mexico

I am Barbara Jo Mullis, and I have the most terrific job in the world because I am an 8th grade physical science teacher. After teaching 12 years in elementary special education and 19 years in high school chemistry, I discovered a well-kept secret in education: middle school is the best! Thirteen-year-olds are amazing people. I am so blessed to be in my 9th year as a Hawk at Los Alamos Middle School.

I did not set out to be a teacher of any kind. My first degree, a BS in anthropology from Bucknell University, was useless for getting a job but I learned the joy of pursuing what I loved. I still needed a job, so the next degree was an M. Ed. in elementary special education from Clemson University. The job became a career and then a calling. A funny thing about a calling is that regardless of your intentions, it is what you are...what you have to do...what you love. I had fallen in love with teaching. Over time, I was lured into science by tuition-free graduate hours and fellowships. So, by 1983, I was a full-fledged science teacher. Although, it took a move to New Mexico to earn my final degree, a Master of Science Teaching from New Mexico Tech.

At LAMS, I coach the Department of Energy Science Bowl Team and the Knowledge Master Team. Over the years, each of these teams has been nationally ranked numerous times. This, of course, is actually due to the students' willingness to study, practice and encourage each other. At LAMS, I get to challenge the gifted kids and encourage the challenged kids. So I am blending my training in special education and science. Also, I won a grant and used it to create a cross-curricular unit on energy resources that brought dozens of new books into our library and that allows students to work in teams to explore and critique the status of eight traditional and alternative energies every year. I have earned and maintained certification as a National Board Teacher in young adult science, which has opened the door to serve on committees that shape science education in broader ways. I worked with the Public Education Department to develop questions for the SBA test. At the district level, I am a middle school representative on the committee that will make recommendations for the new textbook adoption this spring. And at my school site, I am currently serving on the architectural review committee to plan the science rooms of our new building.

In class, I have an opportunity every day to communicate what learning about science can do to enrich my students' lives. Success with hands-on activities empowers young people and gives them the confidence to keep trying when the concepts get harder. My students learn to use evidence to make decisions not just as a classroom exercise but also as a life skill. Together we experience the relevance of science to big things like the environment and careers, and to small things like forces in skate boarding and the wonders of nail polish remover. My hope is that science adventures in the 8th grade will inspire students to pursue STEM goals for a sustainable future.

Thank you so much for the honor of being recognized as an Outstanding Science Teacher. It is gratifying to have professional scientists acknowledge the role of us pedagogues. And thank you to my principal, Rex Kilburn, for nominating me. It is rewarding to know that someone notices the long nights grading piles of papers and the hours after class setting up labs.

**Brian Montoya**  
Puesta del Sol Elementary School  
Rio Rancho, New Mexico

I was asked to provide a biographical sketch of how I became a teacher and how and why I teach science the way I do. Honestly, I never really gave my teaching methods that much thought before; I just do what comes natural. I believe students should be taught foundational skills in whatever they are learning, and then be exposed to as many opportunities as possible to apply that knowledge on real life problems, and if you can incorporate hands-on activities in this process, just stand back and watch the "magic."

Reflecting on the journey that brought me to the teaching profession made me realize that my whole life has been a preparation for my becoming a science teacher. For starters, I was always a very curious kid and was fascinated with figuring out how everything worked. For example, when I was ten years old I took my mother's brand new toaster apart because I needed to understand how it knew when to pop the toast up when it cooked. Unfortunately, it would not be until years later that I truly understood how a bimetal switch worked, but I did learn what happens when you don't have proper funding for your science experiments, and how many lawns you have to mow to replace a toaster.

My father learned auto mechanics in the Army, and for awhile he sold tools. My grandfather was a contractor, and built houses. This gave me access to just about every tool needed to build or take apart anything I could find. For supplies I often relied on my uncles who were "garbage men." Much to my mother's dismay, they provided me all the raw material a budding scientist could ever want. Not surprisingly, at a very early age I had developed an incredible "common sense" understanding of how things in the physical world worked around me, but my formal education would not come so easily.

I was never what you would call a "natural" student. My teachers rarely understood me because I did not fit the mold of a standard student, but on occasion I would find a teacher who not only understood me, but encouraged my method of learning. These teachers were often my shop and science teachers. I endured History and English classes, but I lived for anything related to Science or Math.

Ironically, it was during a 20 year detour called the Marine Corps, that I learned the value of "hands-on" teaching. The Marine Corps is an organization that understands this concept very well. They also provided me an opportunity to attend and graduate from college with, of course, a science degree. Half way through my career in the Corps, I received a commission and became an officer. It was during this part of my career that I began to realize how much I enjoyed training younger Marines, and anything related to teaching. My final assignment before retiring was as the Marine Officer Instructor at UNM. I wasn't teaching science, but I was teaching.

My wife had been working as an educational assistant for several years. Teaching in public school seemed the perfect idea for a second career, and would allow my wife and me to have similar schedules. While at UNM and with the help from the *Troops to Teachers Program*, I studied for and earned my teaching license and a Masters in Elementary Education. My first job was teaching 7th and 8th grade science at Santo Domingo Middle School in Bernalillo. I loved the science you get to teach in middle school, but wanted a closer relationship with students than seeing them for 50 minutes a day. When the opportunity opened up for me to teach closer to home at Puesta del Sol Elementary School, I jumped at the chance.

Even though I teach all subjects in elementary school, my passion is still science. I truly believe that all students, especially at the elementary level should be exposed to "real" science, (*Continued on pg. 8*)

## Membership Form New Mexico Academy of Science

New Membership [ ] Renewal 2012 [ ] Renewal for another year [ ] Publications [ ] Donation [ ]

Date \_\_\_\_\_ Name \_\_\_\_\_

Employer/Firm/Affiliation \_\_\_\_\_ Title \_\_\_\_\_

Primary Interest (geology, biology, chemistry, physics, science education, etc.) \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone \_\_\_\_\_ FAX \_\_\_\_\_ email \_\_\_\_\_

Check if your address is different from that on the mailing label of this newsletter [ ]

### Membership Class (check one)

- Member \$25/year
- Student \$15/year
- Life \$400  
[3/4 of amount goes to NMAS Endowment]
- Subscription \$30/year  
(Libraries only)
- Contribution to the NMAS Endowment \$\_\_\_\_\_

Membership Subtotal: \$ \_\_\_\_\_  
 Donation Subtotal: \$ \_\_\_\_\_  
 Publication subtotal: \$ \_\_\_\_\_

Total: \$ \_\_\_\_\_

Membership includes newsletters, and occasional special Journal of Science volumes (sent to life members and members who have paid their annual dues during the volume's year of publication).

**Send check for membership and/or publications and donations, payable to NMAS, to:**

**New Mexico Academy of Science  
 1801 Mountain Rd. NW  
 Albuquerque, NM 87104**

**Please...make a donation to the NMAS Endowment to support science education programs!**

### NMAS PUBLICATIONS

<b>New Mexico Journal of Science</b> Set of all available pre-1992 back issues	\$10 _____
<b>From Sundaggers to Space Exploration</b> (NMAS/Sigma Xi, 1986)	\$4 _____
<b>Dinosaurs of New Mexico</b> (NMAS Journal v. 32, 1992)	\$10 _____
<b>The Importance of Agricultural Science in New Mexico's Economy</b> (NMAS Journal v. 34, 1994)	\$10 _____
<b>Astronomy in New Mexico: Past, Present and Future</b> (NMAS Journal v. 35, 1995)	\$10 _____
<b>New Mexico's Natural Heritage: Biological Diversity in the Land of Enchantment</b> (NMAS Journal v. 36, 1996)	\$10 _____
<b>Environmental Management: Current and Future Needs</b> (NMAS Journal v. 37, 1997)	\$10 _____
<b>Water Resource Issues in New Mexico</b> (NMAS Journal v. 38, 1998)	\$10 _____
<b>Ensuring Sustainable Development of Arid Lands Through Time</b> (NMAS Journal v. 39, 1999)	\$10 _____
<b>NMAS Journal v. 40, 2000</b>	\$10 _____
<b>NMAS Journal v. 41, 2001</b>	\$10 _____
<b>NMAS Journal v. 42, 2002 (Centennial CD)</b>	\$10 _____
<b>NMAS Journal v. 43, 2003</b>	\$10 _____
<b>Science on the Border</b> (NMAS Journal v. 44, 2006)	<b>\$10 _____</b>
<b>NEW..Energy in the Southwest</b> <small>Online at <a href="http://www.nmas.org/NMJoS-Volume-45.pdf">www.nmas.org/NMJoS-Volume-45.pdf</a></small> (NMAS Journal v. 45, 2008)	\$10 _____
Subtotal:	\$ _____
+ Handling:	\$ 2.00

NMAS Newsletter  
Volume 98 no. 1&2  
Spring/Summer, 2012

*Brian Montoya, Continued from Page 6...*

not just science from a book. As soon as I arrived at Puesta I sponsored a Science Club, which led to the need to build a science lab. Realizing that there is so much science to be learned outdoors in NM, I wrote a grant to build an Outdoor Learning Center (OLC), an extension of our lab. In our OLC we are using solar and wind generators to power our greenhouse and to teach students about alternative energy production. I wrote a grant to build a wind tunnel. Of course our students could learn about making electricity from the wind out of a book; however, let me assure you that when we build model wind generators and experiment with them inside our “real” wind tunnel in our “real” science lab, I have everyone’s undivided attention. This is why I do what I do, and teach the way I teach, it works and it is fun.

Lastly, it would be wrong to accept this award without making it perfectly clear that my success is a direct result of the amazing team of people who believe in me and let me dream so big. Simply put, I could not be the teacher I am without the loving support of my wife and family, the support of my Principals and my School District, the support of big and small businesses that provide us with grants, and the support and encouragement of so many of my colleagues. Probably most important of all was the impact of the extraordinary teachers in my past that saw in me things I did not always see in myself.

### NMAS Membership Survey

The goals of NMAS are to:

- Foster scientific research and scientific cooperation
- Increase public awareness of the role of science in human progress and human welfare
- Promote science education in New Mexico

1.How well do you think NMAS is meeting those goals?

2.In what areas would you like to see NMAS do more?

3.In what areas would you like to see NMAS do less?

4.What science topics are of interest to you?

5.What would it take for you to get more involved with NMAS activities?

**Please Renew your NMAS Membership for 2012  
And...Fill out the Membership Survey above**



**NEW MEXICO  
ACADEMY  
OF SCIENCE** | Newsletter

1801 Mountain Rd NW  
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