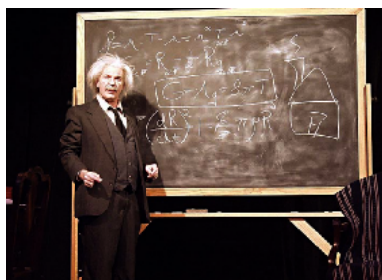


***The New Mexico Academy of Science
2005 Annual Conference presents***



Einstein: A Stage Portrait

starring

Tom Schuch

Saturday, November 19, 2005

1:00 PM to 4:00 PM

**@ the Albuquerque Academy
Simms Auditorium**

THIS EVENT IS FREE FOR ALL

There is no admission fee

Bring your friends and family

Door prizes and refreshments available

THE SETTING: The year is 1946, the bomb has been dropped, the world has forever changed, and Albert Einstein has invited the audience over to his home to set the record straight about his life. Join Dr. Einstein for an evening of humor, introspection, science and a little violin. You'll walk away with an understanding of the man who solved many of the world's most difficult puzzles with astounding creativity and humor.

This award-winning show (Dramalogue, Best Playwright) is for the entire family and brings to life the physicist who TIME magazine called their Person of the Century.

This presentation of Einstein: A Stage Portrait is jointly sponsored by the New Mexico Academy of Science and the University of New Mexico Physics Department, with additional funding from Sandia National Laboratories

THEN...please join us during the evening of November 19 for the...

***NMAS 2005 Annual Banquet,
Outstanding Science Teacher Awards
and Distinguished Lecture***

We are honored to have as our Distinguished Lecturer,

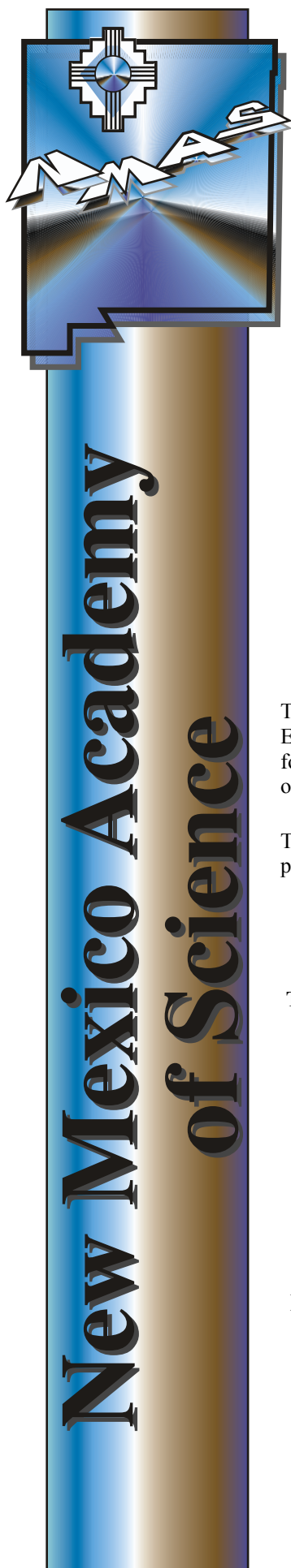
Tim Moy, Ph.D.

UNM Department of History

Dr. Moy will speak on Einstein's role as "the scientist," how and how and why a research scientist in the abstract field of theoretical physics became a known and recognized symbol of science and scientific genius around the world.

Dinner will be at 6pm with the NM Outstanding Science Teacher awards following.
Dr. Moy's invited lecture will be at 7:30pm.

*The evening will be held at the New Mexico Museum of Natural History and Science.
See page 6 in this newsletter for more information and page 8 for the banquet registration.*



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NMAAS Member News.....

Recent gifts to the NMAAS

In the category "Under \$200"
Greg Swift

In the category "Under \$100"
Mona and Harry Pomeroy
Donivan Porterfield
Jayne Aubele

THANK YOU!

**Don't Forget....
See page 6 of this newsletter
for more information on
the Academy's
2005 Symposium
and
2005 Annual Banquet,
Awards and
Distinguished Lecture**

**See page 8 of this newsletter
to reserve your space for
the banquet/lecture.**

*For all of your questions
about the Academy...Check
out the NMAAS web site at*

www.nmas.org



NMAAS Newsletter
Volume 91, no. 3
October, 2005

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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 - October 2005

Jayne Aubele

My favorite Einstein quote is, "As a circle of light increases, so does its circumference of darkness." This seems to me to be the essence of science; the more we discover, the more we discover that we don't know. This is the glory and wonder of science and one of the things that keeps scientists working and thinking and wondering. It is also one of the most misunderstood aspects of science by non-scientists. The public expects a simple, definitive "yes" or "no" about a scientific issue. Most often, a scientist will say "maybe," because the scientist is well aware of all of the possibilities and parameters and changing conditions. Or, even worse, the same scientist may say "yes" at one time and "no" at another time as more information is discovered or analyzed about a particular topic. Students are frequently taught science as a set of "answers," and find it correspondingly boring. Most scientists, I believe, would characterize science as a set of "questions," and that is why small children frequently ask the same questions that scientist do: why is the sky blue? what are clouds? why do volcanoes erupt? why does $2+2$ always = 4? why don't we fall off of the spinning Earth?

When non-scientists have expectations about science that are incorrect, they experience disappointments with science and begin to view science as ineffective or defective. The way non-scientists view and understand science has changed from a generally positive view to a generally negative view over the past five decades, and that change is responsible for a decrease in support given to scientists and scientific projects in today's society. All of you probably have your own examples of this, but one example is the fight during the 1980s to keep Congress from disbanding the U.S. Geological Survey, a science organization that produces the nation's maps and monitors active volcanoes in addition to other research...important science that came very close to being shut down.

Recently, however, I have been encouraged by a slow but definite change in public attitude about science. That attitude is reflected (or perhaps affected) by a change in the popular culture of television and movies. When I was a high school student, the original *Star Trek* series began airing and the breakout star was Leonard Nimoy as Spock. Spock was a scientist who used logic in all things. Spock was also really cool, smart, and sexy. Therefore, as Spock might have said, "logic dictates that if you want to be really cool, smart, and sexy, you should become a scientist." Yes, I know, for those of you who have taken a course in logic, that is actually a logical fallacy. But you know what I mean. And, the fact that I did take a course in logic in college was a direct outcome of Spock and Star Trek. For some time now, the definitive icons of commercial television have been cool, smart, and sexy but they have definitely NOT been scientists. For decades, the strange world depicted on TV has been populated solely by detectives, policemen, lawyers, and doctors....no other profession exists.

But that has begun to change and with that change I sense an underlying change in public attitude. It began with the popularity of *CSI*, a series that focuses on forensic scientists and detailed crime scene investigations, and the unexpected hit movie, *A Beautiful Mind*. It has continued with programs such as this year's *Bones*, about a forensic anthropologist who helps an FBI agent, and *Numb3rs*, about a mathematician and an astrophysicist who help the FBI. Yes, these programs are still focused on detectives and crime, but popular culture appears to be moving in an interesting direction. At least we are seeing some representations of scientists as interesting, intelligent, and capable. *Numb3rs* is particularly interesting; the series is produced by a husband-and-wife team who had been trying for years to do a series about scientists. They take pains to use real math and real scientific concepts in the scripts, and real mathematicians and scientists as consultants. Maybe, it is the beginning of a trend. I recently purchased an "Albert Einstein Action Figure" manufactured by a company called Accoutrements: Outfitters of Popular Culture. Einstein is wearing his working clothes (sweater and trousers), can sit or stand, and is holding a piece of chalk in his hand - ready for action. Really cool!

END of YEAR REPORT and NEW INITIATIVES FROM THE ACADEMY

Jayne Aubele
President, NMAAS

Summary of 2005 Events

- Outstanding Science Teacher awards to two New Mexico teachers.
- Successful 43rd year of the statewide Visiting Scientist Program.
- Junior Academy of Science competition and awards in New Mexico regional and state Science Fairs.
- Selection of two New Mexico high school seniors as delegates to the National Youth Science Camp.
- NMAAS Members and Board Members participated in public hearings regarding the Rio Rancho School Board's decision to include "Intelligent Design" as part of the science curriculum.
- NMAAS Members and Board Members participated in the Public Education Department's "Instructional Materials Adoption Process for Science Textbooks in New Mexico."
- Publication of an NMAAS position statement supporting the teaching of evolution.
- Annual symposium, planned for November 19, as a free public event to coincide with the anniversary of Einstein's Miracle Year and the Albuquerque Tricentennial's Science and Technology Month.
- Annual NMAAS meeting, banquet, awards ceremony, and invited lecture planned for November 19.
- New initiatives begun: endowment fund, membership drive, membership certificates, and Journal....see below.

NMAAS Endowment Fund

Membership may rise or fall but the need to continue the Academy's role as an advocate for science and science education in New Mexico never changes. Therefore, the NMAAS Board has approved the concept of a permanent endowment fund.

The endowment fund will be for the purpose of creating a long-term generating vehicle for supporting the many programs undertaken by the NMAAS. It is anticipated that the endowment fund will provide a vehicle for members to remember the Academy through charitable gifts and in their wills. The rules and management of the endowment are currently under discussion by a subcommittee consisting of the current Treasurer, past-Treasurer, and NMAAS legal advisor.

DID YOU KNOW?

Albert Einstein said the following:

"I have no particular talent, I am simply passionately inquisitive."

"There is only one road to human greatness: through the school of hard knocks."

"Science without religion is lame, religion without science is blind."

"When I was young, I found that the big toe always ends up making a hole in a sock. So I stopped wearing socks."

New NM Journal of Science on Border Research

Annual publication of the New Mexico Journal of Science was ended with the publication of the 2003 Journal. This decision was made due to the rising costs of publishing and the labor-intensive demands of producing a high-quality scientific publication. There continues to be the possibility, however, of publication of special journals on specific themes that relate to science in New Mexico. Such a possibility is now under discussion between the Academy Board and the Border Research Group at New Mexico State University.

The proposed Journal would offer a vehicle for publication of current applied research taking place under the auspices of the Border Research Group and relating to research in science and engineering on both sides of the U.S.-Mexico border. This would be a bilingual publication accepting original, peer-reviewed articles from researchers at New Mexican and Mexican universities, working in the fields of chemistry, agriculture, engineering, geography, and geology. It is anticipated that a submission form including a short abstract will be requested by potential authors before the end of this calendar year, and publication of the Journal will take place next calendar year.

Certificates of Membership and Membership Drive

Although the NMAAS has been in existence for over 100 years, it has not been common to issue membership certificates to Academy members.

This year, the NMAAS Officers and Board approved issuing certificates to all members in good standing. If you have paid your dues for 2005 or beyond, or are a Life Member (a category of membership that is currently closed to current or new members) you will receive your certificate in the mail by the end of this year.

Display your certificate proudly. You are a member of one of the oldest Academies of Science in the nation, and your membership helps to support our wide range of programs to promote public science advocacy and science education within New Mexico.

As part of this general effort, we will also be making a major membership drive to New Mexico colleges, universities, government laboratories, and K-12 science teachers. If you know someone who SHOULD be a member of NMAAS, please encourage them to join us.

CELEBRATE ALBUQUERQUE'S TRICENTENNIAL and the CITY'S CONNECTION TO SCIENCE AND TECHNOLOGY

This year marks the 300th birthday of Albuquerque. Beginning April, 2005, and continuing to October, 2006, the city will celebrate with hundreds of events and monthly themes to honor Albuquerque's rich history, cultural traditions, natural landscape, and technological achievements. For a detailed list of all events, visit albuquerque300.org

November, 2005 is Science and Technology Month

During November, the city's best scientists, engineers, and science educators have planned a wide range of activities and events. Almost every day in November has a planned event or presentation. The organizations involved include the following: Anderson Abruzzo International Balloon Museum, Explora, Intel, KNME, LodeStar Astronomy Center, Middle Rio Grande Conservancy District, National Atomic Museum, New Mexico Academy of Science, New Mexico Museum of Natural History and Science, New Mexico Solar Energy Association, Sandia National Laboratories, and University of New Mexico School of Engineering. Check out the listing of activities at albuquerque300.org or pick up the full-color, 10-page Science and Technology Month brochure available at any of the sites listed above. Lockheed Martin and Sandia National Laboratories are the sponsors of Science and Technology Month.

January 2006 is Natural History Month

While November is a time to celebrate the advances in physical science and engineering that are part of Albuquerque's story, January 2006 will be the month to celebrate advancements in the natural sciences. January 2006 also marks the 20th anniversary of the New Mexico Museum of Natural History and Science and the Museum has planned a full calendar of events including evening lectures for the general public, gallery talks at the Museum, workshops for K-12 teachers, family events, free-days at the Museum, and a public walking tour of the building stones of downtown Albuquerque (in partnership with NM Tech.) For a complete listing of these events, see the Albuquerque300 January calendar or access the Museum's web site at www.NMnaturalhistory.org

DID YOU KNOW?

Marie Curie is the only person ever to have been awarded two Nobel Prizes, one in physics and one in chemistry. When she offered herself as a candidate for a vacant seat in the French Academy of Sciences in 1911, she was violently attacked by the French press for her foreign birth, her liberal politics, her sex, and her love life (she was a widow).

Albert Einstein wrote to her in November, 1911, in response to these public attacks. Below is a portion of that letter

Esteemed Mrs. Curie,
Don't laugh at me for writing to you without having anything sensible to say. But I'm so furious at the vile way in which the rabble at present dares to treat you that I must give bent to this feeling....I must tell you how much I've come to admire your spirit, your creativity, and your honesty....
Yours very truly,
A. Einstein

Translation by Bertram Schwarzschild.
The Collected Papers of Albert Einstein, vol 8, R. Schulmann et al, eds., Princeton U. Press, 1998.

DID YOU KNOW?

- Albert Einstein was born in 1879 in Ulm, Germany. He left school at the age of 15 and took an entrance exam for the Swiss Federal Institute of Technology in Zurich, but failed; only after returning and completing secondary school was he accepted to the Institute where he graduated in 1900.

- Unable to find a teaching position, he accepted a job in the Swiss patent office in 1902. In 1905, while still a patent clerk, he published his three most famous papers. Based on this work, he accepted university positions in Zurich and Prague before going to Berlin as Director of the Kaiser Wilhelm Institute of Physics, where he published his fourth fundamental paper on the general theory of relativity.

- In 1922, he won the Nobel Prize for physics (for the photoelectric effect, not for relativity). In 1932, he accepted a part-time position at Princeton University; and, increasingly disturbed by the rise of the Nazis in Germany, moved permanently to the U.S. He died in Princeton, NJ, in 1955.

NMAAS Hosts Two Informative and Exciting Events Both held on November 19, 2005

Attend the 2005 NMAAS Symposium

Saturday, November 19, 2005,

1:00 PM to 4:00 P.M.

**@Albuquerque Academy - Simms Auditorium
6400 Wyoming Blvd., North of Academy Road
Albuquerque, NM**

**This event is free
Bring your whole family**

An important mission of the New Mexico Academy of Science (NMAAS) is to "increase public awareness of the role of science in human progress and human welfare, and promote science education in New Mexico." Last year, the NMAAS celebrated the 50th anniversary of Watson's and Crick's discovery of the structure of DNA. This year we will celebrate the centennial of Einstein's "Miracle Year." In 1905, the young (26 years old) and obscure physicist, working in the Swiss Patent Office published five scientific papers that shook the world of science to its core. In that year, Einstein challenged Isaac Newton and 19th century physics by inventing relativity, proposing that the speed of light is constant, postulating the equivalence of mass and energy, supplying a convincing proof for the existence of atoms, and arguing that light behaved as both a particle and a wave.

To mark this anniversary, our conference will consist of a performance by Tom Schuch entitled "Einstein: A Stage Portrait." <http://www.spoli.com/> This award-winning one-man show (Dramalogue, Best Playwright) brings Einstein to life for a modern audience and is suitable for upper elementary through high school students and adults.

The performance will start at 1:00 p.m. The actual performance is 1 hour 40 minutes, which includes a 15-minute intermission. It will be followed by audience questions and answers, drawing for free door prizes, photo ops with "Prof. Einstein," and refreshments and discussion in the auditorium lobby.

This event is jointly sponsored with the University of New Mexico Physics Department, with additional contributions from Sandia National Laboratories/Lockheed Martin. Students in middle- or high-school are especially welcome, along with parents, teachers, friends and neighbors. For more information, contact: Dr. Marshall Berman, mberman60@earthlink.net, 505-296-5640

Attend the 2005 NMAAS Annual Banquet - Awards - Lecture

Saturday, November 19, 2005,

Begins at 6:00 P.M.

**@ New Mexico Museum of Natural History
1801 Mountain Rd. NW, Albuquerque, NM**

*This event requires a reservation
See page 8 for cost and reservation form*

Join us for the NMAAS annual meeting and banquet. Reservation form and information is on page 8 of this newsletter.

Dinner will begin at 6:00 p.m., followed by awards to the NMAAS 2005 New Mexico Outstanding Science Teachers. Two teachers have been selected by the Awards Committee from teachers nominated by their principals, colleagues, or students from throughout New Mexico. The 2005 Outstanding Teachers will receive engraved Nambe plates from the NMAAS, a monetary award from the American Chemical Society, and a grab-bag of classroom materials that they can use with their students.

Then, our 2005 Distinguished Lecturer is Dr. Tim Moy, University of New Mexico Department of History, who specializes in the history of science. Dr. Moy will discuss the phenomenon that has made the name "Einstein" known throughout the world and synonymous with the word "genius." Just how did a research scientist in the arcane field of theoretical physics capture the attention of the general public? Why haven't other scientists received similar acclaim or attention?

Come and join us for a fun and fascinating evening and new insight into the popularization of a scientist. Don't delay, reserve your space now for the NMAAS annual banquet. Mail the form on page 8 or call or email the NMAAS treasurer with your reservation.

DID YOU KNOW?

The concept of peer review of scientific research is a cornerstone of science. Even Albert Einstein was occasionally wrong and a reviewer caught his error.

In 1936 Einstein withdrew a scientific paper he had submitted to the journal *Physical Review* after receiving a negative critique from the journal's reviewer. His initial response was, "I see no reason to address the...erroneous comments of your anonymous expert...I prefer to publish the paper elsewhere." In 1937 the paper was published in another journal but with radically different conclusions; Einstein had realized his error in the meantime.

Membership Form New Mexico Academy of Science

New Membership [] Renewal [] Membership Year 2006 [] other [] Additional 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 []

NMAS PUBLICATIONS

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

Membership Class (check one)

- [] Member \$20/year
- [] Student \$15/year
- [] Subscription \$30/year
(Libraries only)

Publication subtotal: \$ _____

Total: \$ _____

Membership includes 3 newsletters.

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

**New Mexico Academy of Science
NM Museum of Natural History and Science
1801 Mountain Rd. NW
Albuquerque, NM 87104**

Or use the enclosed addressed envelope!

ALSO...consider making a donation to the NMAS to help further its science education programs!

NMAS Newsletter
Volume 91 no. 3
October, 2005

**NMAS 2005 Annual Banquet, Awards, and Lecture
November 19, 2005**

Registration: \$30.00 (includes banquet and lecture)

Lecture only registration: \$15.00

Name: _____

Mailing Address: _____

Email address or phone number: _____

Registration for banquet/lecture for _____ persons = \$ _____

Registration for lecture only for _____ persons = \$ _____

Total Amount Enclosed = \$ _____

Please mail (or email or phone) your registration TODAY to:

New Mexico Academy of Science

2732 Tramway Circle NE

Albuquerque, NM 87122

ATTN: Marilyn Savitt-Kring, Treasurer

*To register by email or phone (and pay with a check made out to NMAS when you arrive) contact
mmkring@juno.com or 505-856-6654 for more information or to make reservations.*

Don't Delay....Registration must be received by November 16th.



**NEW MEXICO
ACADEMY
OF SCIENCE**

Newsletter

NM Museum of Natural History and Science
1801 Mountain Rd NW
Albuquerque, NM 87104