



# @ the Bradbury

Special Events & News

## Celebrating Women in Science

March is Women's History Month and the museum is celebrating by recognizing women whose research has had a lasting impact on science. Most people have heard of Marie Curie—a true pioneer in the fields of radiation and radioactivity—but not nearly as many know of Lise Meitner's association to the Laboratory's history. Born in 1878 in Vienna, Austria, Meitner trailblazed her way into the history books by studying



radioactivity with Nobel Prize-winning chemist Otto Hahn and later discovering nuclear fission. It was her revelation that led Albert Einstein to write his famous warning letter to President Franklin D. Roosevelt resulting in the creation of the Manhattan Project and its Project Y, known today as Los Alamos National Laboratory.



Also lesser-known women in science were those recruited to work at Project Y as “human computers.” Using the mechanical Marchant calculator, these women worked around the clock running computational simulations and calculations in support of the gun-assembled uranium weapons programs. In recognition of this effort, two Los Alamos National Laboratory female scientists recently assembled a team to create an app that simulates the action of this historic calculator. The app is scheduled to premier at the museum mid-March adjacent to the vintage Marchant calculator already on display. Come to the museum and try it for yourself!

### Save the Date!

- MAR 12** **Evening Lecture**  
5:30 PM to 7:00 PM  
**Terry C. Wallace, Jr.**  
“Storms on the Horizon”
- MAR 14** **Pi Day Special Lecture**  
Noon to 1:00 PM  
**Reuben Hersh**  
“Mathematician's Delight”
- MAR 22** **Big Sky Learning**  
11:00 AM to 2:00 PM  
Science fun for kids & teens
- MAR 26** **Brown Bag Lecture**  
Noon to 1:00 PM  
**Eva Rose Balog**  
“More Than Muscle: What Can We Build Out of Protein?”

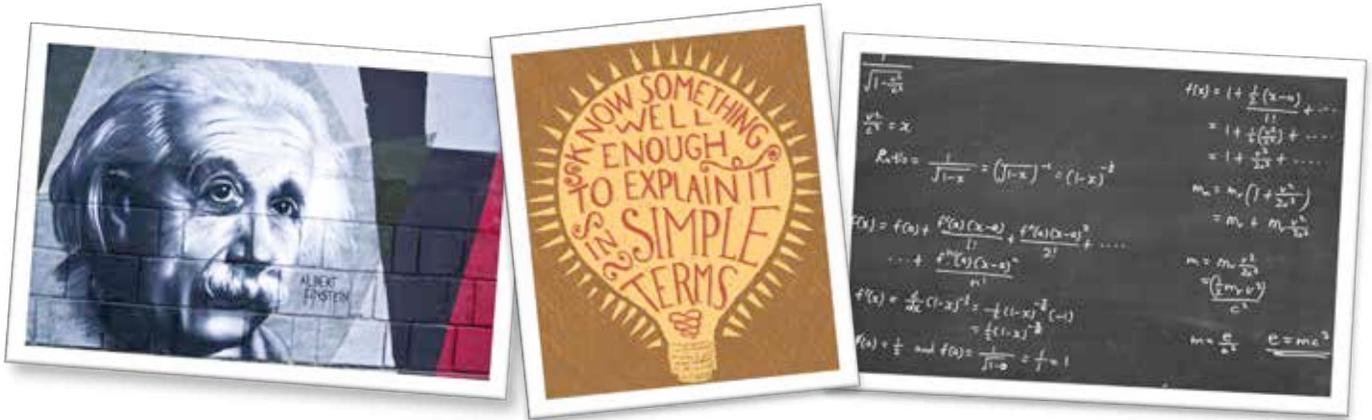
### Science Cinema

Every Saturday @ 10:30 AM  
Featuring a different science film each week.

# What's So Special About March 14?

## It's Einstein's Birthday...

If Albert Einstein were alive today, he would celebrate his 135<sup>th</sup> birthday this year. Best known for his mass-energy equivalence formula of  $E=mc^2$ , Einstein is considered the father of modern physics and his Special Theory of Relativity unlocked the mysteries of the universe that had before remained unknown. Today, the practical applications of Einstein's theories include the development of the television, remote controls, automatic door openers, lasers, and even DVD players.



*"All of science is nothing more than refinement of everyday thinking." – Albert Einstein, 1929*

## ... and it's Pi Day!

Pi Day is an annual celebration commemorating the mathematical constant  $\pi$ , a never-ending, transcendental number representing the ratio of a circle's circumference to its diameter. It is observed on March 14 (3/14... get it?). Today, Pi is used for everything from calculating the size of planets outside of our solar system to figuring out how to get the most out of your money when ordering a pizza. To learn more about these applications of Pi, try exploring these web pages.

5 Ways NASA uses Pi: <http://www.jpl.nasa.gov/education/index.cfm?page=371>

Using Pi to Order Pizza: <http://www.avclub.com/article/heres-mathematical-proof-you-should-always-order-b-201629>



**FUN FACT:** While Pi has been, and will continue to be, calculated into the billions of digits, if we had a figure for the exact diameter of the universe ( $\sim 10^{26}$  m), we would need only 41 digits of Pi (3.14159 26535 89793 23846 26433 83279 50288 41971) to calculate its circumference to the accuracy of the width of a proton ( $10^{-15}$  m). The rest might be described as recreational math, but don't tell our mathematician friends that.



To subscribe to our monthly newsletter, visit the museum's website at: [www.lanl.gov/museum/events/events-mailing.shtml](http://www.lanl.gov/museum/events/events-mailing.shtml)



## Monthly Lectures

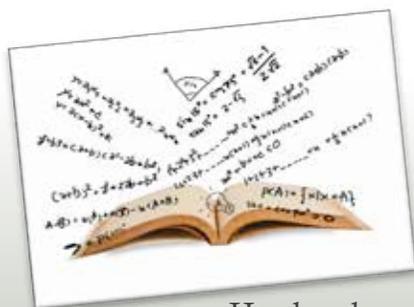
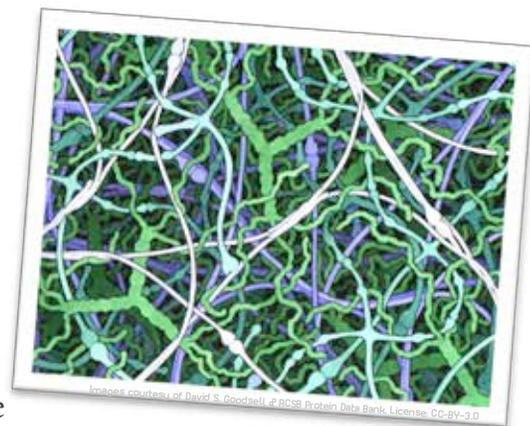


### Evening Lecture: March 12, 2014 5:30 PM to 7:00 PM

Terry C. Wallace, Jr., principal associate director for Global Security at Los Alamos National Laboratory (LANL) presents a lecture “Storms on the Horizon: National Security Challenges Coming in Science and Technology.” As the global population approaches nine billion people, the world will face new and daunting challenges in energy, the environment, health, and natural resources. Los Alamos is thinking about this changing world and how it can employ scientific and technical resources to help predict and mitigate emerging threats.

### Brown Bag Lecture: March 26, 2014 Noon to 1:00 PM

Eva Rose Balog from LANL’s Center for Integrated Nanotechnologies presents “More Than Muscle: What Can We Build Out of Protein?” Proteins are not only the building blocks of life—they are also inherently nanoscale. Nature uses a 20-amino acid "alphabet" to create complex functional protein materials, from collagen to spider webs. This talk will explore how scientists are using this same alphabet to create exciting new nanomaterials, nanomachines, and nanoreactors. Balog will also discuss how protein-based nanomaterials could be the future of flexible, biocompatible electronic devices.



### Special Lunchtime Lecture: March 14, 2014 Noon to 1:00 PM

Reuben Hersh, Professor Emeritus from the University of New Mexico (UNM), presents “Mathematician’s Delight.” In honor of Pi Day, Hersh will offer up some fun with numbers, triangles, and puzzles using logic and philosophy that is enjoyable for all ages.

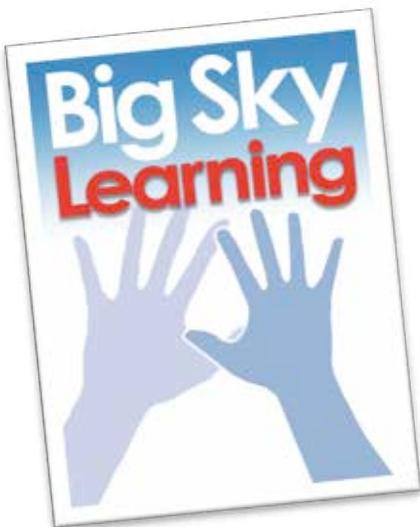
Hersh, who spent many years writing for *Scientific American*, then 45 years teaching math at UNM, has earned national recognition for his research in differential equations and analysis. His book with Phil Davis, “The Mathematical Experience,” won a National Book Award in 1983 and in January 2014, the American Mathematical Society published his latest book, “Experiencing Mathematics: What Do We Do, When We Do Mathematics?”

## Things To Do

### Pi Day Activities

March 14 – 10:00 AM to 5:00 PM

- ✓ Interact with hands-on Pi-related activities throughout the museum
- ✓ Attend a special “Mathematician’s Delight” lecture from Noon to 1:00 PM
- ✓ View the historic Marchant calculator used by wartime “Rosies” at Project Y
- ✓ Try out the new Marchant Calculator app to see if you are as fast as a 1943 “computer”



### Fun with Big Sky Learning

March 22 – 11:00 AM to 2:00 PM

- ✓ Build your own Shake Bot—a small simple robot that shakes—and take it home for FREE!
- ✓ Learn to work with real tools using safe techniques
- ✓ Understand more about simple circuits during the building process
- ✓ Hear about Big Sky Learning’s *Build It!* Summer Camp and school year offerings

### Visit the Museum

Bradbury Science Museum is located at 1350 Central Avenue in downtown Los Alamos, New Mexico. Approximately 40 interactive exhibits trace the history of the WWII Manhattan Project, highlight Los Alamos National Laboratory’s current and historic research projects related to defense and technology, and focus on Laboratory research related to energy, environment, infrastructure, health and global security concerns.



**Hours: Tuesday – Saturday: 10:00 AM to 5:00 PM, Sunday & Monday: 1:00 PM to 5:00 PM**