Over the past 17 years the Petroleum Museum and Chevron have built a partnership engaging young scientific minds in the Permian Basin. Family Science Nights are an essential program for the Museum and our community. With growing attendance averaging over 1,000 people per Family Science Night, these free hands-on science events are reaching more families than ever. With Chevron's support, the Museum staff prepares interactive science stations and experiments centered around a scientific theme four times per school year.

Volunteers are vital to implement these big events and Chevron staff members are always generous with their time. Greg Hinterlong, aka Dr. Petro, is a long-time Chevron volunteer that engages and excites the visitors as they walk through the door. Other Chevron volunteers often call in advance to pick out a station or see if they can add something to enhance the visitor’s experience. Showing support through sponsorship AND volunteerism displays the devotion and sincerity of Chevron's involvement in Family Science Night over the years.

“Our long relationship with Chevron has had a monumental role in the development of all of the Museum’s educational programs. Family Science Night funding allows us to invest in supplies, equipment and curriculum that can be used for a multitude of future programs. It is the basis of so much of what we do here,” notes Executive Director Kathy Shannon.

“Effective education, including science, technology, engineering and math (STEM), can foster bright young talent for the future workforce. Chevron’s partnership with the Petroleum Museum allows students, as well as adults, to experience STEM first-hand and apply learning to real world problems. We are extremely proud of our 17-year partnership and expect it to continue for years to come” adds Sarah Hughes, Public Affairs Representative with Chevron.

MARK YOUR CALENDARS for our Family Science Nights this fall:

Thursday, October 31: Spooky Science Spectacular
Family Science Nights are from 6:30 to 8 p.m. Museum members enjoy the added bonus of early admission from 6 to 6:30 pm. Family Science Nights are brought to you by our generous sponsors at Chevron!
Petroleum Pioneers | It’s Time for 30th Reunion

Event to Honor Angelo, Newman

Mark your calendars for the 30th Reunion of the Petroleum Pioneers on Friday, October 6, at the Petroleum Museum. The day starts with a light breakfast and registration. At 10 a.m., Dr. Diana Hinton will present the historical program in the Museum’s auditorium. There will be a members meeting at 11 a.m. in the Museum’s Education Hall. A noon luncheon honoring this year’s recipients will be held in the Museum Auditorium. Dr. Scott Tinker, Director of the Bureau of Economic Geology, will be keynote speaker. Ernest Angelo will receive the 2017 Top Pioneer award and Fred Newman will receive the organization’s Technology and Engineering Award.

Angelo has spent most of his life in two of the most unpredictable and controversial fields—the oil industry and politics. While earning his petroleum engineering degree at Louisiana State University, he discovered his knack for politics. He worked tirelessly for the Republican party, holding a national committee position for 20 years. As mayor of Midland, he oversaw many community-changing projects: the airport’s modernization, building new fire stations, and Midland’s first mall.

Newman has been referred to as a maverick physicist, inventor and aviator. Armed with a bachelor of science degree in Physics and Math, Fred began life in the oilfield as a field engineer with Schlumberger. Deciding to determine his own future, he left Schlumberger to start Basin Flying Service, an oilfield consulting business, a five-rig drilling company, a well service company and an oilfield technology company. He holds over seven dozen U.S. patents, a testament to his engineering talents.

Museum tours will be offered in the afternoon. For more information on sponsorships, tickets or registration, contact Kathy Shannon, 432-683-4403 or email kshannon@petroleummuseum.org.

Volunteer | Sears Never Stops Teaching

Retirement for Jim Sears evolved into a new world combining his career in education with his interest in science.

Sears spent more than 30 years in the education field, mostly as an athletic trainer. He also earned a master’s degree in counseling. Eight years ago, he retired and moved to Midland to be near friends. But they wouldn’t allow him to spend much time sitting around his house. Lael Reel and Rick Shepard encouraged Sears to join the Museum’s docents three years ago. Since then, his volunteerism has evolved into giving school tours, working with the summer science classes and assisting with robotics classes.

“It gets me out of the house and makes me do things,” Sears said. “After teaching for more than 30 years, I’m used to working with students. They keep me active and going.”

As a docent, he turned that teaching experience into a role as a top-notch tour guide for school children. “When I do the tours, I like to talk about the paintings here and the early history of the area,” he said. “Then I take the students to the Permian Sea exhibit and they really enjoy that. Sears also lends a “hand” for the puppet shows during those tours. He’s played the roles of Coronado, Cabeza de Vaca and Cowboy in the Texas history-based program.

His favorite part of being a volunteer is watching the reaction of the younger students when they visit the Museum. “They are so excited to come out and see everything. I have to keep them calmed down. They really enjoy the new hands-on exhibits and Energy City.”

Want more information on how to become a docent like Sears?
Turn to Page 5 for information on how to sign up for training.

Lunch & Lecture Series

Tuesday, September 19
11:30 a.m. to 12:30 p.m.
Dr. Eileen Johnson: “Giant Tortoises and Tiny Horses: Exploring the Ancient Animal Life of West Texas”

The Museum of Texas Tech University excavations at Roland Springs Ranch near Snyder have uncovered bones from over 50 different species of animals dating to the Pleistocene period (2 to 2.6 million years ago). The remains document an ancient animal community and lay the foundation for a modern animal population of West Texas. Auditorium doors will open at 11 a.m.
Wolf Teaches Science Through Stunts

It was a fun-filled week at the Petroleum Museum when we welcomed the amazing Steve Wolf in mid-September. Wolf is an Academy Award-winning stunt and special effects professional. During his 25-year career in film and television, Steve worked with such actors as Tom Cruise, Al Pacino, Gene Hackman, Tom Selleck, Ted Danson, Tom Hanks and Susan Sarandon. He has been featured as a stunt science expert on the Discovery Channel, Fox News, History Channel, Good Morning America, A&E, WIRED magazine, and The Wall Street Journal. However, Steve’s real passion came when he began converting his working knowledge of stunts and special effects into education.

“Along the way, I’ve discovered something I love even more than figuring out how to zipline from building to building or blow things up. I love teaching kids about the science that I use in my work. There are few things as thrilling as learning new ideas,” he said.

As founder of Science in the Movies, an organization that teaches physics and chemistry through stunt demonstrations, Steve uses the entertainment industry’s ability to capture kids’ attention to help them master the science they need to pass tests and solve tomorrow’s challenges. Attendees to his presentations benefit from seeing science in action and gain understanding and appreciation in a fun, interactive show. Students who see the Science in the Movies presentation often score up to 30 percent higher on science tests. The Petroleum Museum was proud to host Steve and his team in Midland for a series of events this September. Special thanks to Chevron, the Abell-Hanger Foundation, and NewsWest9 for sponsoring these events! For more information, contact Stacie Hanna at shanna@petroleummuseum.org.

Programs/Rentals

Space Fits All Needs

From small businesses to large corporations, if you are searching for premium meeting space, remember that the environment plays a big role in how effective the meeting will be. The Petroleum Museum rewards that perfect selection of space with true West Texas panache.

We have been the venue of choice for many industry companies. Our versatility to adapt to a multitude of meeting requirements, whether a workshop and/or training session in the auditorium or small group meeting in the board room makes the Museum a great choice for companies like Schlumberger, Concho, XTO Energy, Pioneer Energy, and Plains-All American. The Museum’s auditorium has been used for staff training, energy updates, and even job fairs. Other alliances like Region 18 and NEED Project (National Energy Education Development Project) and companies like Travelers Insurance and Community Bank of Raymore (Missouri) find the Museum a fitting site for meetings. From a fundraising venue to an appreciation banquet, the Museum can do it!

The Board Room is the ideal location for meetings of 12 persons or less, seated around a conference table. Several global leaders from such companies as ProPetro Services and Borets International have conducted meetings here. Leaders in areas of interest outside the petroleum industry, such as West Texas Radio, Permian Historical Association, and Monahans Baptist Church have used the room as well.

The Museum’s grounds have been used as a training site for rope rescue and emergency training with area first responders. Other outside space has been used to showcase industry technology. Even the Oil Patch has been transformed as the backdrop for an elegant afternoon wedding. The Crosby Group hosted a barbecue dinner in the midst of our collection of antique drilling and production equipment.

The Café, overlooking the Oil Patch and Midland’s downtown skyline has been the venue for elegant dinners for Schlumberger, Chevron and Mewbourne Oil Company.

The Petroleum Museum offers great spaces for any company or business – so think of us next time you are planning an event in West Texas. We are dedicated to making events the very best they can be. For more information, contact Carey Behrends, 432-683-4403, or email him at cbehrends@petroleummuseum.org.
**Woohoo! What a Fun Summer!**

Look at the fun we had this summer at our Summer Science Camps! From exploring robotics and engineering to studying the wonders of earth and space, students were engaged as soon as they walked through the doors. We would like to extend a special thanks to Apache Corporation for making this science-packed summer possible!

![Science camps pictured are: A. Earth – Space; B, K-2 Building Bots; C, Building Bots, 3-6; D, Earth – Space; E, Earth – Space; F, STEM Art.]

**ASK Dr. Petro**

What do geologists mean by permeability?

Permeability is a measure of resistance of rock to movement of fluids. Permeability refers to how connected pore spaces are to one another. If the material has high permeability then pore spaces are connected to one another allowing water to flow from one to another; however, if there is low permeability then the pore spaces are smaller and more isolated and water has difficulty flowing within the spaces.

Formations that diffuse fluids readily, such as sandstones, are described as permeable and tend to have many large, well-connected pores. Low permeability formations, such as shales and siltstones, tend to be finer grained or of a mixed grain size, with smaller, fewer, or less interconnected pores.

Absolute permeability is the measurement of the permeability conducted when a single fluid is present in the rock. Effective permeability is the ability to favorably flow a particular fluid through a rock when other fluids are present (for example, effective permeability of gas in a gas-water reservoir). The relative saturations of the fluids as well as the nature of the reservoir affect the effective permeability. Calculation of relative permeability allows for comparison of different capacities of fluids to flow in

The image on the left is analogous to gravel whereas on the right smaller particles are filling some of the pores and displacing liquid. The liquid content of the material on the right is less. (Source: Wikipedia)
We want to give a round of applause to the following friends, companies and businesses. Their in-kind contributions of time, assistance or services are appreciated:

- Bison Drilling Co.
- Bison Trucking Co.
- Britt Trucking Co.
- Byrd Oil Field Services
- Fab Lab Permian Basin at Odessa College
- Plains All-American Pipeline
- Volunteers who helped with Summer Science Camp

Museum of the Southwest:
  - Kristen Wagstrom, Annelorre Robertson, Samantha Voss

Wild About Texas:
  - Michael Price

APPLAUSE, APPLAUSE

We want to give a round of applause to the following friends, companies and businesses. Their in-kind contributions of time, assistance or services are appreciated:

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  - Kristen Wagstrom, Annelorre Robertson, Samantha Voss

Wild About Texas:
  - Michael Price

ANARDARKO FAMILY DAY: We were excited to host Anadarko’s Family Day at the Museum in August. We had a great turnout of families and volunteers. We are proud to be an educational resource for families, schools and companies!

A school group tours the Chaparral Gallery.

Training Set for Docents

The Petroleum Museum welcomes over 6,500 students and adults in guided tours each year. Join us in bringing science and history to life by leading tours of the Museum! Become a trained docent (or tour guide) by attending docent training October 19-20 from 10 a.m. to 2 p.m. To RSVP or for questions about becoming a docent, please contact the education department at 432-683-4403 or education@petroleummuseum.org.

Thanks, Bill!

The Museum would like to recognize Bill Halepeska for all the time and effort he has so graciously donated to the Education Department. Bill, a retired geologist, has played an integral part in cutting and acquiring the rock and mineral collection for our new Geology Trunks to be utilized in the schools. Thank you, Bill!

Register for Robotics Today!

Engage tinkering minds to explore the world of Science, Technology, Engineering, Art, and Math with Building Bots Robotics and Engineering Funlabs. Students will participate in team-building activities, engineering challenges, and creative robotic design. We will be utilizing our Lego WeDo 2.0 sets, Lego Mindstorm EV3 sets, Ozobots, Osmos, and littleBits robotics pieces for these science-packed, fun-filled classes. Don’t let your inventive engineer miss out on this exciting opportunity! Go to www.pbpetro.org to register today!

Memorials

Memorial contributions to the Petroleum Museum are deposited in the permanent endowment fund to provide ongoing tribute to the individuals recognized in bold. Donors are listed below the honoree. Contributors from May 24, 2017, through August 31, 2017, were:

IN MEMORY OF...

Roger Allen
Mr. & Mrs. Sidney S. Lindley
Donald Charles Findlay
Pam & Bob Leibrock
Holly Ann Halepeska
Carolyn King
Betty Gilmore
Bryan & Rhonda Culbertson
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Kathy & Barry Cooper and Family

Dorr Petroleum Land Management, LLC
S&P Global Platts
John H. Edwards IV & Gene-Marie Sperduti
Kathy Shannon
Greta Tatom
West Texas State Bank
YOU Keep Our Heart Beating Strong

The heart is a pump that uses oxygen-rich blood to maintain the body’s heartbeat. The Petroleum Museum, just like a heart, needs a strong heartbeat to stay healthy. Our endowment is that strong heart that keeps us “pumping.”

You have helped us build that healthy heart into a more than $6 million fund that supports the Museum’s operating budget.

As we continue to plan for a healthy future, your infusion assures that the Museum will continue to grow, prosper, and become an even stronger community partner. With a strong history and an exciting future, the Museum continues to tell the petroleum and energy story and its impact on our lives. We work hard to ensure that every student discovers a passion for science and every visitor understands the petroleum industry.

Your infusion today ensures a healthy heart as well as a strong heartbeat tomorrow and for years to come – help us build our endowment with a life-giving donation today.

Consider a gift in honor or in memory of someone who has inspired or nurtured a dream for the future. Your tax-deductible gift will make a distinct difference in the Petroleum Museum’s ability to continue its mission of offering a memorable and educational visitor experience. Make a donation on our secure website at www.pbpetro.org or contact Luanne Thornton at 683-4403 or l thornton@petroleummuseum.org.

Welcome to These New, Renewed Members!

Welcome to our newest and renewed members of the Museum as of May 1, 2017:

**Contributing Members**

Jasmin Adams
Joy & John Anderson
Katie Beckett
Phebe & Jay Blaylock
Michele Leigh-Bottlinger
Charlotte Boyd
Jim Brooks
Mr. & Mrs. Gordon Buescher
Elizabeth Burke
Danny Caram
Rachel Chapa
Michael Chavez
Kerry Kay & Tom Cook
Meri Cooney
Alisha Cooper
Glenn Curry
Lisa & Chris Dalager
Deborah Dannelley
Abel Delacruz
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Lauren & Justin Disney
Annette & Martin Dozier
Jamie Durrett
Lacey & Marshall Early
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Mr. & Mrs. Jeff Fansler
Laura & Dillon Ferguson
Stephanie Fitzpatrick
Chelsy Fling
John Franklin
Mr. & Mrs. Robert Fuentes

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Steven Garcia
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Patrick Goodsell
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Rebecca Isaacs
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Jessica Suckarieh Weinzel
Mrs. Floyd L. Wheeler
Williams Oil Company
Julie & Darin Wood
Mr. & Mrs. Ralph Worthington
Mr. & Mrs. Bob Young

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Apache Corporation
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Energen Resources Corporation
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Permian Basin Petroleum Association
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Mr. & Mrs. Jack Rathbone
Myra Robinson
Simons Piper Jaffray
Dr. & Mrs. Tulsi Singh
Mr. & Mrs. Jeff Sparks
Jane Williams
### Notable Dates

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<th>September</th>
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| September 19 | **October 19-20** | November 2 | BROWN BAG LUNCH & LECTURE SERIES<br>SPEAKER: ANDY WILKINSON<br>“CROSSROADS OF MUSIC ARCHIVE IN TEXAS TECH SOUTHWEST COLLECTION”
11:30 a.m. to 12:30 p.m.
Free admission. Drinks & dessert provided.<br><br>Sponsor: HAHL PROCTOR CHARITABLE TRUST | November 7 | Building Bots<br>Robotics & Engineering FunLab<br>5:30 to 7:30 p.m.
Grades 3rd - 6th<br>Pre-registration required. For more information or to register online, visit www.pbpetro.org<br><br>Sponsor: ANADARKO AND HENRY RESOURCES | **December 17** | **December 17** | **December 17** | **December 17** |
| **SEPTEMBER** | **OCTOBER** | **NOVEMBER** | **DECEMBER** |
| **September 19** | **September 19** | **November 2** | November 21 |
| **Brown Bag Lunch & Lecture Series**<br>**Speaker: Dr. Eileen Johnson**<br>“GIANT TURTLES AND TINY HORSES: EXPLORING THE ANCIENT ANIMAL LIFE OF WEST TEXAS”<br>11:30 a.m. to 12:30 p.m.<br>Free admission. Drinks & dessert provided.<br><br>Sponsor: HAHL PROCTOR CHARITABLE TRUST | **Building Bots**<br>**Robotics & Engineering FunLab**<br>5:30 to 7:30 p.m.<br>Grades 3rd-6th<br>Pre-registration required. For more information or to register online, visit www.pbpetro.org<br><br>Sponsor: ANADARKO AND HENRY RESOURCES | Fall Energy Legends Lecture<br>**Speaker: Arlen Edgar**<br>6 to 8 p.m.<br>Scharbauer Student Center Carrasco Room<br>Midland College Main Campus<br>Co-sponsored by Petroleum Museum and Midland College | **December 17** |
| **October 2** | **October 3** | **November 21** | **December 17** |
| **IPAA Oil & Gas Overview**<br>8 a.m. to 4:30 p.m.<br>For more information, go to ipaa.org/events/<br>In partnership with IPAA, Energy Training Resources, LLC<br>Hosted by the Petroleum Museum | **Building Bots**<br>**Robotics & Engineering Fun Lab**<br>5:30 to 7:30 p.m.<br>Grades K - 2nd<br>Pre-registration required. For more information or to register online, visit www.pbpetro.org<br><br>Sponsor: ANADARKO AND HENRY RESOURCES | **Building Bots**<br>**Robotics & Engineering FunLab**<br>5:30 to 7:30 p.m.<br>Grades K - 2nd<br>Pre-registration required. For more information or to register online, visit www.pbpetro.org<br><br>Sponsor: ANADARKO AND HENRY RESOURCES | **Brown Bag Lunch & Lecture Series**<br>**Speaker: Charles Fator, HABY PetroAnalysis**<br>“LAB IN THE FIELD”<br>HABY Chemical Reaction Spectrophotometry (CRS) is a new platform-ready fingerprinting technology available to geologists, drillers and producers.<br>11:30 a.m. to 12:30 p.m.<br>Free admission; drinks & dessert provided.<br><br>Sponsor: HAHL PROCTOR CHARITABLE TRUST |

For more information about any of these programs or events, contact the Petroleum Museum at 432-683-4403 or www.pbpetro.org.
Museum Staff

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The Museum Store

Get Back to Books at the Museum Store! From books about the petroleum industry and western novels to children’s books and cookbooks, we have it all. The Museum Store is open from 10 a.m. to 5 p.m. Monday through Saturday and 2 to 5 p.m. on Sunday, or shop online at pbpetro.org/shop anytime. Shop with purpose by supporting the museum through purchases made in the Museum Store.