Sierra del Carmen, October 2022, taken by Liz Olson

# PBS-SEPM NEWSLETTER

November 2022

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<b>PBS-SEPM</b> <b>November</b> <b>Luncheon,</b> Speaker: Robert Lindsay, Title: Middle East Dust Storms and Their Economic Importance	4	Corporate & 16 Individual Sponsors We appreciate your generosity	About PBS-SEPM <b>19</b> Wendell J. Stewart Scholarship Fund & Robert Read Fund
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#### President's Column

The Society of Economic Paleontologist and Mineralogist Permian Basin Section was established to promote the science of geology in the Permian Basin and adjacent areas; to foster scientific research in paleontology, sedimentary petrology, and stratigraphy; and to disseminate scientific information, especially as it relates to petroleum geology.

One of the many ways the PBS-SEPM promotes the organizations purpose is through Mentorship. The PBS-SEPM mentorship centers on personal growth and development by experienced mentors. The organization encourages networking amongst geologist and geoscientist with an understanding of the complex carbonate geology of the Permian Basin. In an ever-changing world that is not all about factory drilling shale plays; geologists can learn about the diverse geological topics such as Cyclostratigraphic Principles for Reservoir Characterization in Carbonates, Permian & Pennsylvanian Stratigraphy of the Midland Basin, or the San Andres Residual Oil Zone (ROZ) when participating in a Core Workshop.

Seasoned geologists have plenty of hands-on experience to share and teach our new and upcoming geologists fresh out of school which can be applied in their own journeys. It is always great to hear recently graduated geologists discuss their vast knowledge of climbing ripples. Our mentors can channel their eagerness and desire to learn the field and locate potential petroleum reserves. With this Partnership, the experienced petroleum geologist has the opportunity to learn new academic concepts. It is this dissemination of ideas and knowledge the organization is hoping to foster. Knowledge is the key to success.

A dedicated mentor with strong core values is priceless. Some of the best mentors in our profession are not always geologists, they are engineers, company owners, service companies, managers, field specialists, office workers, colleagues or colorful field hands with countless years of experience. Remember everyone has something to teach and if we are willing and receptive, we can learn and grow our knowledge. We are all incredibly thankful for the mentors we have had in our lives.

The PBS-SEPM offers a wonderful place to learn, network, share stories, anecdotes, offer or suggest other resources to pull from and tailor strategies to help you reach your own goals. An idea from a Speaker Luncheon can spark a petroleum play, add potential pay, or a reminder to follow up on which can add value to your professional life but also the companies bottom-line. Many companies' dedicated leaders recognize the value created.

We would like to encourage and invite geoscientist, geologists and engineers to present their paper and learnings for publication that is aligned with the PBS-SEPM purpose. Since the previous generations have already discovered all the 'big secrets' on unconventional & conventional plays, seismic bumps, and ROZ plays, let us leave the secrets behind and move forward with inspiring our new generation, to learn about the Permian Basin we love.

In order to continue to build and focus on the Section's purpose, we would like to invite individuals and corporations to donate to the PBS-SEPM. <u>We are currently seeking sponsors for</u> our luncheons, speaker costs, virtual meetings, and the Young Professional Field trip.

We look forward to seeing you at the next PBS-Luncheon, <u>Tuesday, Nov 15, at the Ranchland Hills Golf</u> <u>Club.</u>

#### David Shoore

#### Welcome Our Newest Executive Committee Member!



Polly Fleischmann 2nd Vice President pollyf@forl.com

# YOUNG PROFESSIONAL AND INTERN FIELD TRIP

# JUNE 8 – 11, 2023 GUADALUPE MOUNTAINS

LIMITED SPOTS AVAILABLE www.pbs-sepm.org/ypift

# MULTI-DISCIPLINARY ENGINEERING GEOLOGY&LAND YOUNG PROFESSIONALS, INTERNS, AND NEW HIRES

# **PBS-SEPM NOVEMBER LUNCHEON**



Tuesday, November 15, 2022 – 11:30AM

Ranchland Hills Golf Club & Online via Microsoft Teams

**Early Bird Rate \$25 | Walk-In/Late RSVP \$35 | Student \$10 | Virtual FREE** Register by 3PM on 11/11: <u>www.pbs-sepm.org/events</u> | <u>info@pbs-sepm.org</u> | (432) 279-1360

## **Middle East Dust Storms and Their Economic Importance**

Dr. Robert Lindsay – Lindsay Consulting LLC

#### ABSTRACT

A Middle East dust storm, referred to as a shamal or haboob, is a strong storm front that lifts dust into the atmosphere as the storm front moves across the desert floor. Dust storms are massive and transport large quantities of clay, silt, and sand from the northwest to the southeast across the Arabian Peninsula. Storm fronts move as a dense wall that can be up to one kilometer high and progress forward as a massive slow-moving wall (20 km/h). As a dust storm sweeps over an area sun light is blotted out and visibility is reduced to only a few meters. These dust storms are stronger during the day and weaken in the evening. Most dust is picked up in Jordan and Syria and transported southeast.

What is the difference between a shamal and a haboob? A Shamal, Arabic for north, is a northwesterly to southeasterly wind that blows over Iraq, Kuwait, and Saudi Arabia, which creates large dust and sandstorms. A haboob is a strong wind that occurs primarily along the southern edges of the Sahara in Sudan and is associated with large sandstorms and dust storms and may be accompanied by thunderstorms. So, both are the same but bear different names in the Middle East and North Africa.

As a result of a dust storm, grains of silt and sand are coated with a fine layer of clay. Clay coatings inhibit syntaxial quartz overgrowths, preserve porosity-permeability, and form good reservoirs in eolian deposits in the subsurface of the Middle East. However, permeability can be reduced by diagenetic growth of clays that bridge across pores and pore throats.

Present-day eolian sand dunes have been studied and compared to ancient sand dunes that are productive of hydrocarbons in the Arabian Peninsula. Studies were done to document how porosity-permeability was preserved in eolian deposits. Sand dunes are products of reworking by wind, which include reworking by Shamals-Haboobs.

During dust storms, grains move by creep, saltation, and suspension. This process moves soil, composed of clay, silt, and sand, from one place and deposits it in another place. During strong dust storms some infrastructure can be damaged, such as trees being uprooted and blown over. Sand dunes moving from northwest to southeast drift across roads and require considerable effort to remove the sand via bulldozers.



Breathing in dust can cause respiratory distress. It is said that you can tell that a person lives in a desert by an X-ray of that individual's chest, which images fine dust coating their lungs.

**BIOGRAPHY:** Utah native and Green Beret, Dr. "Bob" Lindsay, began a geoscience career with a BS in Geology from Weber State College, followed quickly by an MS in Geology from Brigham Young University. Bob spent several years with Gulf Oil, Chevron, ChevronTexaco, and Saudi Aramco in research and applied positions. While at Saudi Aramco, Mr. Lindsay completed a PhD in Geology from the University of Aberdeen and taught graduate level carbonate sedimentology at King Faud University of Petro-leumand Minerals. Bob is now consulting, and teaching as an Affiliated Professor at Brigham Young University, Provo and Idaho. Dr. Lindsay and his wife Linda have five children, twenty grandchildren, and one great-grandchild.

#### **PBS-SEPM** Luncheon Location



## **RANCHLAND HILLS GOLF CLUB** 1600 E. Wadley Ave., Midland, TX 79705



Register Today
<u>November 15th Luncheon | PBS-SEPM</u>

**PBS-SEPM** Luncheon Location

## WE WILL BE RETURNING TO DOWNTOWN MIDLAND AT THE BUSH CONVENTION CENTER FOR OUR LUNCHEONS STARTING IN 2023!



See You Then! 105 N Main St Midland,TX 79701 SEPM

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# Renew or become a Member of PBS-SEPM TODAY!

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Join PBS-SEPM Today for the 2022-2023 Membership Year!

And the subscript

#### **PBS-SEPM Membership Benefits**

- Help provide Geoscience scholarships
- YP/I Field Trip led by disciplined professionals
- Professional field trips led by topical experts
- Annual Core Workshops

- Monthly Technical Luncheon Series (in-person & virtual)
- Networking opportunities
- Distinguished Lecturer Series
- Special member pricing on publications, field trips, and more!

# **THANK YOU** FOR YOUR SUPPORT!

Annual Dues



# Volunteer with PBS-SEPM!

If you are interested in volunteering with PBS-SEPM, below are the Board Positions and Committees

#### **Board Positions**

President-Elect 1<sup>st</sup> Vice President 2<sup>nd</sup> Vice President Treasurer Secretary Nominating Honorary Life Stratigraphic Scholarship Core Location Dedicated Service Award Distinguished Lecturer Series

#### **Committees**

Webmaster Publicity One Day Field Trip Young Professionals Field Trip Lunch Arrangements Luncheon Program Speaker Award Publications

Please email us at <u>info@pbs-sepm.org</u> to get more details about the position or committee.

# ROBERT L. READ, JR. DISTINGUISHED LECTURE SERIES

# SAVE THE DATE

# THURSDAY MARCH 2, 2023

PETROLEUM CLUB OF MIDLAND



# KEYNOTE SPEAKER

#### MARK MATHIS

President, Clear Energy Alliance Producer, Director, Author, and Energy Policy Advocate

110

#### Tickets Available Soon www.pbs-sepm.org/robertread

Benefitting the Permian Basin Section - Society for Sedimentary Geology | Dinner & Drinks will be served

# 3rd Annual Multi-Society Christmas Party

#### HOSTED BY PBGS, PBS-SEPM, SPWLA, & WTGS



When: Friday, December 16th | 6:00 - 9:00 PM Where: The Destination - 1705 W. Industrial Ave. Midland, TX

> Please RVSP by December 12th https://wtgs.org/Events

Get ready to have some fun!



### 3<sup>rd</sup> Annual Multi-Society Christmas Party Hosted by PBGS, PBS-SEPM, SPWLA, and WTGS Friday, December 16, 2022, 6:00pm The Destination – 1705 W. Industrial Ave., Midland, TX

# Sponsorship Form



#### Santa - **\$**1000+

- Santa Champagne Toast!
- Special recognition in announcementsLogo on advertisements for the event,
- koozie\*, and poster board at eventOption to leave flyers and other
- material around



#### Elf - **\$7**50

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- Logo on advertisements for the event and poster board at event
- Option to leave flyers and other material around



#### Rudolph - \$500

- Logo on advertisements for the event and poster board at the event
- Option to leave flyers and other material around



#### Frosty the Snowman - \$250

 Logo on advertisements for the event and poster board at the event

Please contact Shellie Crossland (wtgs@wtgs.org, 432-683-1573) for sponsorship questions and payment information.

\*Must commit to a Santa sponsorship and submit your logo by November 16th for logo to be included on the Event Koozie\* Deadline for Sponsorship Commitment is December 2, 2022 to receive all sponsor benefits listed above and appear on promotional materials. Actual payment can be sent in by December 16<sup>th</sup>, 2022.

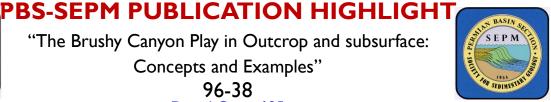


#### **PBS-SEPM** Publications



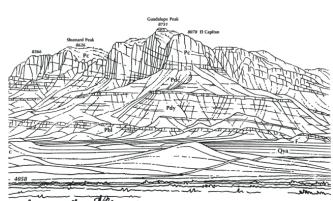
"The Brushy Canyon Play in Outcrop and subsurface: Concepts and Examples" 96-38

Digital Copy: \$25



The Brushy Canyon Play in Outcrop and Subsurface: Concepts and Examples

> Guidebook Permian Basin Section, SEPM 1996



#### **Entire PBS-SEPM** publication library (1955 - 2007)

There is a fully searchable Table of Contents—find a topic or author just by typing in the word(s). All publications are in Adobe PDF with all major articles being bookmarked, and all the figures are linked in the text for quick reference. Those areas that are off limits to geologists like the Glass Mountains or Sierra Diablos have been written up in these publications. Numerous out-of-print publications and figures and/or plates not published in the original guidebooks are now available in this library.



W.D. DeMis and A.G. Cole Editors

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#### DVD III - Core Workshops (82, 83, 85, 98) & Special Publications (A, 88-28, 96-39, 84)

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Payment: check, cash or online with credit card Make checks payable to PBS-SEPM & send order form to: PBS-SEPM, 2900 Front St, Midland, TX,

#### **PBS-SEPM Publications**

#### PUBLICATIONS

- PERMIAN BASIN CORES: CORE WORKSHOP #1-3
- PERMIAN BASIN CORE WORKSHOP DOE FUNDED RESERVOIR CHARACTERIZATION PROJECTS
- PENNSYLVANIAN CORRELATION CHART
- CARBONATE SEMINAR
- THE PRECAMBRIAN ROCKS OF THE SOUTHEASTERN FRANKLIN MOUNTAINS, EL PASO COUNTY, TX
- CAPITAN REEF, NEW MEXICO AND TEXAS: FACTS AND QUESTIONS TO AID INTERPRETATION AND GROUP DISCUSSION
- TECTONICS & PALEOZOIC FACIES OF THE MARATHON
- MARATHON MARFA REGION, WEST TEXAS
- MIDDLE & UPPER PENNSYLVANIAN SYSTEM OF NORTH CENTRAL AND WEST TEXAS (OUTCROP TO SUBSURFACE)
- THE GEOLOGIC EVOLUTION OF THE PERMIAN BASIN: A SYMPOSIUM
- LOWER PERMIAN TO UPPER PLIOCENE CARBONATE AND CLASTIC FACIES SOUTHERN EASTERN SHELF
- PERMIAN CARBONATE/CLASTIC SEDIMENTOLOGY, GUADALUPE MTS.
- HYDROCARBON RESERVOIR STUDIES SAN ANDRES / GRAYBURG FORMATIONS, PERMIAN BASIN
- THE LEONARDIAN FACIES IN W. TEXAS AND S.E. NEW MEXICO AND GUIDEBOOK TO THE GLASS MOUNTAINS, W. TEXAS
- BASIN TO SHELF FACIES TRANSITION OF THE WOLFCAMPIAN STRATIGRAPHY OF THE OROGRANDE BASIN
- GEOLOGIC GUIDE TO THE WESTERN ESCARPMENT, GUADALUPE
- THE LOWER PALEOZOIC OF WEST TEXAS AND SOUTHERN NEW MEXICO MODERN EXPLORATION CONCEPT
- 1990 MARATHON THRUST BELT: STRUCTURE, STRATIGRAPHY AND HYDROCARBON POTENTIAL

• SEQUENCE STRATIGRAPHY, FACIES, AND RESERVOIR GEOMETRIES OF THE SAN ANDRES, GRAYBURG, AND QUEEN FORMATIONS GUADALUPE MTS.

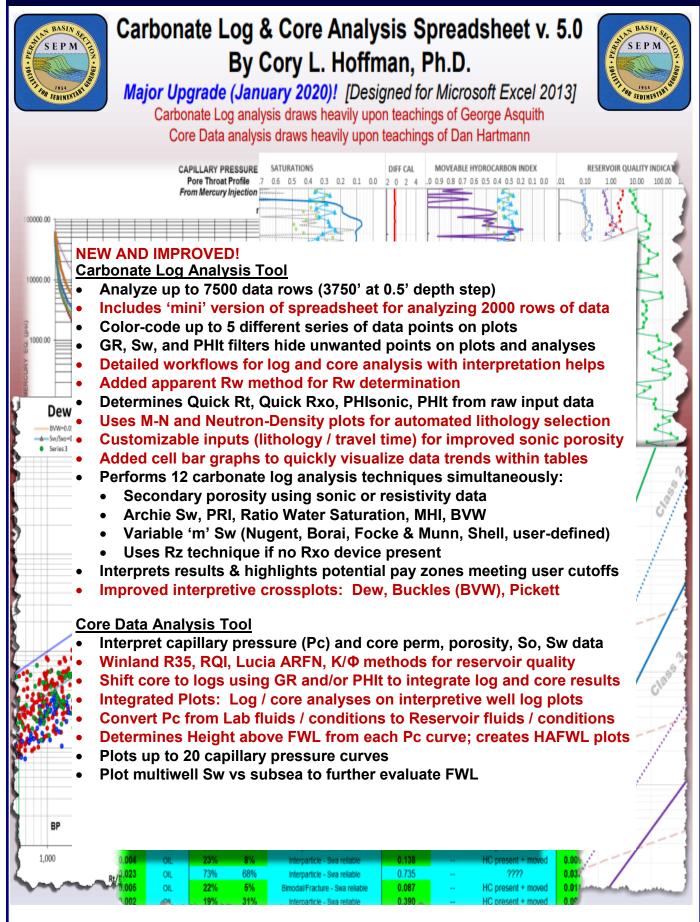
• PALEOKARST, KARST RELATED DIAGENESIS & RESERVOIR DEVELOPMENT: EXAMPLES FROM ORDOVICIAN-DEVONIAN AGE STRATA OF WEST TEXAS AND THE MID-CONTINENT

• PALEOKARST, KARST RELATED DIAGENESIS & RESERVOIR DEVELOPMENT EXAMPLES FROM CAMBRIAN-PENNSYLVANIAN AGE STRATA FOR THE MIDCONTINENT ARBUCKLE MTS, OKLAHOMA

- FIELD GUIDE TO THE PALEOZOIC SECTION OF THE SAN ANDRES MTS.
- CARBONATE FACIES AND SEQUENCE STRATIGRAPHY: PRACTICAL APPLICATIONS OF CARBONATE
- SAN ANDRES IN OUTCROP AND SUB SURFACE
- THE BRUSHY CANYON PLAY IN OUTCROP AND SUBSURFACE: CONCEPTS AND EXAMPLES
- BIG BEND FIELD TRIP STRUCTURAL TYPES AND HYDROCARBONS: FOLDS, FAULTS, AND FRACTURES
- THE BRUSHY CANYON FORMATION (DELAWARE MOUNTAINS) W TX: DEEP-WATER SANDSTONE RESERVOIR ARCHITECTURE
- CYCLOSTRATIGRAPHIC PRINCIPLES FOR RESERVOIR CHARACTERIZATION IN CARBONATES: EXAMPLES FROM THE CRETACEOUS OF WEST-CENTER TX
- UPPER ORDOVICIAN MONTOYA GROUP OUTCROPS IN THE COOKS RANGE OF NEW MEXICO AND SOUTHERN FRANKLIN MOUNTAINS
- CYCLOSTRATIGRAPHIC PRINCIPLES FOR RESERVOIR CHARACTERIZATION IN CARBONATES: EXAMPLES FROM THE CRETACEOUS OF CENTRAL, TEXAS
- BASINAL FACIES OF THE UPPERMOST GUADALUPIAN: APPLICABILITY TO EXPLORATION AND DEVELOPMENT PROJECTS CD ONLY
- PBS-SEPM FIELD TRIP- APRIL 4-6, 2008 CARBONATE SLOPE STYLES: EXP. FROM THE PERMIAN OF THE GUADALUPE MOUNTAINS
- SEQUENCE STRATIGRAPHY AND DEPOSITIONAL SYSTEMS OF THE EASTERN SHELF LOWER PERMIAN, CENTRAL TEXAS
- PALEOZOIC MOUNDS STRATIGRAPHIC ARCHITECTURE IN THE SACRAMENTO MOUNTAINS: IMPLICATIONS FOR RESERVOIR CHARACTERIZATIONS
- GEOLOGY OF THE CAPITAN SHELF MARGIN: THE GULF PDB-04 CORE
- FOLDS-FAULTS-FRACTURES SURFACE STRUCTURES AS ANALOGS TO SUBSURFACE HYDROCARBON DEVELOPMENT
- SAN ANDRES RESIDUAL OIL ZONE (ROZ) CORE WORKSHOP GUIDEBOOK
- SAN ANDRES RESIDUAL OIL ZONE (ROZ) FIELD TRIP GUIDEBOOK

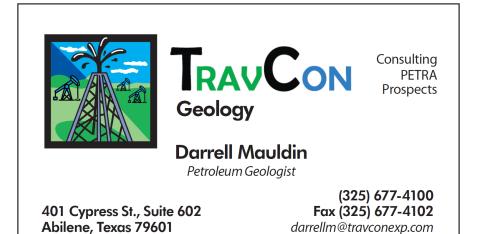
#### SPECIAL PUBLICATION

- CHART-PENNSYLVANIAN CORRELATION CHARTS, KANSAS, OKLAHOMA, TEXAS AND NEW MEXICO, 1960
- PERMIAN AND PENNSYLVANIAN STRATIGRAPHY, MIDLAND BASIN
- GEOLOGY OF THE DELAWARE BASIN
- 2009 CORE WORKSHOP: APPLICATIONS OF CORES TO PERMIAN BASIN RESERVOIR CHARACTERIZATION



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#### Sponsorship Information (2022-2023)

Our non-profit society relies entirely upon the efforts of dedicated volunteers to serve the geological community—primarily through educational events. The PBS-SEPM hosts luncheon lectures, core workshops and field trips that are led by experts in their chosen areas of the geosciences. If you would like to sponsor the PBS-SEPM in anyway, we have various levels of commitment you can choose from.

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  - Core Workshop/Field Trip Guidebooks
  - Full Page Advertisement on Monthly Luncheon Slides and Newsletter
  - Website Homepage
  - New Publications

#### **GOLD** \$1,000

Your Company Logo included on:

- Core Workshop/Field Trip Guidebooks
- Half Page Advertisement on Monthly
   Luncheon Slides and Newsletter
- Website

#### **SILVER** \$750

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- Core Workshop/Field Trip Guidebooks
- Quarter Page Advertisement on Monthly Luncheon Slides and Newsletter
- Website

#### LUNCHEON \$400

Your Logo included for one luncheon date on:

- Luncheon Advertisements (LinkedIn, Emails, Newsletter)
- Full Page Advertisement on Luncheon Slides for that month
- Website
- Table tents

#### INDIVIDUAL

\$100 - One Year

#### \$50 - Six Months

Your Business Card included in:

- Newsletter
- Monthly Luncheon Slides
- Website

If you are interested in a sponsorship opportunity, please call PBS-SEPM for more details at (432) 279-1360 or e-mail <u>info@pbs-sepm.org</u>.



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If you are interested in a sponsorship opportunity, please call PBS-SEPM for more details at (432) 279-1360 or e-mail info@pbs-sepm.org.

Do you have an idea for an interesting *luncheon talk?* Have a core workshop you'd like to present? Have some suggestions on how **PBS-SEPM** can better serve the geo*logic community?* Send us an e-mail to share your idea, your PBS-SEPM Executive Board wants to hear from vou!

#### November 2022

**PBS-SEPM** is the Permian Basin Section of SEPM—the Society for Sedimentary Geology. However, you do not need to be a SEPM member or a geologist to join PBS-SEPM.

PBS-SEPM prides itself on its success in providing high caliber speakers as well as exceptional core workshops and field trips. PBS-SEPM also provides scholarships to graduating high school students in western Texas and New Mexico. These scholarships are on occasion, offered to college students that have declared their desire to pursue a degree in the geosciences. Through continued support from the industry, PBS-SEPM can continue to provide excellent educational opportunities for the oil and gas industry.

If you would like to join PBS-SEPM, you may visit our website to learn more about us, download a membership form, and learn how to get involved.

#### Scholarship and Distinguished Speaker Events (2022-2023)

Wendell J. Stewart Fund: so named for the famous sequence stratigrapher, was initially funded by the family, and then later through PBS-SEPM members who have contributed over the years. In the past, the scholarship was established to award high school students intending to pursue a college education in the geoscience field (declared major), and had evolved to include college students actively pursuing a geology degree when there were no other qualified candidates. Funding for this scholarship has waxed and waned over the years with the changes of the petroleum industry and because this scholarship is set up in such a manner that only the interest can be used to distribute funds, most scholarships in the last 30 years have been awarded through the PBS-SEPM main budget and not the scholarship fund.

**Robert Read Distinguished Lecturer Fund**: was founded to honor a bright, young geologist who had been an active member of both PBS-SEPM and WTGS and was tragically killed by a drunk driver. Donations from various members of both societies contributed to a membership donation fund that both encourages our continuing education efforts by helping offset the cost of bringing in a distinguished lecturer, usually in geosciences, but not required.