AAPG Honorees, 2024

KEVIN BOHACS

Sidney Powers Memorial Award

Citation—An extraordinarily gifted geologist, scholar, author, teacher, and volunteer, made enormous contributions to the geologic knowledge of sediments on Earth (and Mars). He bravely went where others feared to go—the world of "shale." His guidance and leadership made "mud" understandable, economic, and safe for all geoscientists.

Kevin M. Bohacs hails from Greenwich, Connecticut and received his B.Sc. (Honors) in geology (summa cum laude) from the University of Connecticut in 1976, advised by Anthony Philpotts, Randy Steinen, Peter Geiser, and Frank Bohlen. His undergraduate honors thesis was titled "Effect of Grain Size on Transformation of Aragonite to Calcite." He then moved 80 miles "upstream" to complete a Sc.D. in experimental sedimentology at the Massachusetts Institute of Technology (MIT) in geology in 1981 (where, with Bill Correa, he built and operated the world's largest flume), advised by John Southard, Ole Madsen, and Ray Siever. His dissertation was titled "Flume Studies on the Kinematics and Dynamics of Large-scale Bedforms."

Kevin joined Exxon Production Research Company in 1981 working with Peter Vail, Bob Mitchum, John Van Wagoner, and others on incorporating process-based facies modeling into the development of sequence stratigraphy at the outcrop, core, and well-log scale. Kevin recently retired as senior research scientist from ExxonMobil Upstream Research Company where he led the application of sequence stratigraphy and sedimentology to mudstones from lacustrine to deep-marine environments. He now operates KMBohacs GEOconsulting LLC.

His primary focus is to integrate field work, subsurface investigation, and laboratory analyses to inform business decisions. He works closely with exploration groups and universities in evaluating the fine-grained portion of hydrocarbon systems; also, he teaches field schools on sequence stratigraphy, sedimentology, basin analysis, and field safety leadership.

His field research spans 6 continents and 42 countries. Working in the field with Kevin is rewarding and educational. In addition to the standard equipment (rock hammer, chisel, camera, sample bags), Kevin's field "kit" also includes a variety of brushes, pry bars, prospector's pick, dental picks, lightning detector, digital microscope, hard hat, gloves, safety goggles, first aid kit, emergency radio, satellite phone, portable gamma-ray detector, maps and phone numbers of the nearest emergency center and hospital—and his field dress always includes his classic fedora (and a bow tie, just for emergencies). His focus allows him to "see" micro-features in the rocks that most geologists would overlook. Colleagues know that Kevin probably is the "smartest guy in the room," but easily approachable and eager to discuss and debate technical issues and questions.

He epitomizes getting out on the outcrop, going to the core warehouse, examining lots of rocks, and integrating those observations with microscopic, geochemical, petrophysical, geophysical, and paleontological analyses. In the core shed, he can discern subtle features and structures in mudstones that provide key clues to their deposition and compaction. He often points out that "there are no boring rocks, only boring geologists." His presentations are filled with humorous, but insightful observations and interpretations. The late Stephen Ruppel commented that, after listening to a delightful Bohacs presentation, that "he was almost converted to the sequence stratigraphic approach." He generally avoids the "rule" of one-slide per minute, and prefers the 10-slide per minute

approach, but he always ends on time with the audience feeling that they have just had a great meal at a five-star restaurant.

Kevin has written more than 100 scientific contributions on the stratigraphy and sedimentology of mudstones, hydrocarbon source and reservoir rocks, and continental depositional systems (lakes, fluvial-floodplain systems, paleosols, coals, and paleoichnology, including lake strata on Mars), co-authored AAPG's best-selling *Field Safety in Uncontrolled Environments*, two SEPM Concepts in Sedimentology and Paleontology texts, and co-edited AAPG Memoirs 95 and 126 (and co-authored 15 of its 16 chapters). His publications have been cited more than 8000 times and he is an active reviewer for *AAPG Bulletin*, *Journal of Sedimentary Research*, *Sedimentology*, *GSA Bulletin*, and other journals.

I first met Kevin in the early 1980s on an Exxon field trip with Peter Vail, Jan Hardenbol, and Earl Kaufmann (University of Colorado) where the experts were discussing a "downlap surface" in an outcrop of the Niobrara. I remember being impressed with Kevin's insightful questions and engaging personality and I thought "I hope to get an opportunity to work with Kevin sometime in my career." Dreams do come true and I spent several months with Kevin out in the field, in the core shed, teaching Exxon and industry (AAPG, SEPM, HGS) courses, and one of our collaborations resulted in Society of Petroleum Engineers (SPE) Paper 131350 (2010) which has been cited >1500 times. One service industry scientist commented that SPE 131350 is "must reading" for everyone involved in unconventional reservoirs. Similarly, two of Kevin's papers on lacustrine deposits with Alan Carroll, Jack Neal, and Paul Mankiewicz have been cited more than 800 times each.

Kevin's other close collaborators include Remus Lazar, Juergen Scheiber, Joe Macquaker, Jon Schwalbach, Gary Isaksen, George Grabowski, Jim Markello, Art Donovan, Steve Creaney, Paul Weimer, Vitor Abreu, Tim Demko, Ken Potma, Claudio Pellegrini, Bruno Campo, Rene Jonk, Jeff Ottmann, Kirt Campion, Henry Posamentier, Scott Cameron, Clive Jones, Victor Rahmanian, Tom Loutit, John Suter, John Guthrie, Kim Miskell-Gerhardt, Lori Summa, Fred Zelt, Margaret Keller, Kitty Milliken, Bruce Hart, Agnese Morelli, Luigi Bruno, Gary Karner, Len Srnka, Bill Devlin, Carmen Fraticelli, Bill Heins, Bob Klimentidis, Dave Reynolds, Jie Huang, and scores of others—quite a fantastic collection of world-class colleagues in diverse fields.

Bohacs has received many best paper citations and prestigious awards including AAPG Honorary Member (2019); AAPG Robert Berg Research Award (2014); Fellow Geological Society of America (2004); Fellow Geological Society, London (2006); Life Fellow Explorers Club (2008); and Fellow Royal Geographical Society (2006). He is co-recipient of the AAPG Jules Braunstein Memorial Award (1995), AAPG best international paper (1998), AAPG-DEG best paper (2011), AAPG-EMD Frank Kottlowski Memorial Award (2012), and I.C.Russell Award of the Geological Society of America Limnogeology Division (2013). He has been an AAPG Distinguished Lecturer (1999-2000), a Petroleum Exploration Society of Australia Distinguished Lecturer (2002), ExxonMobil Outstanding Instructor (1994-1996, 2003-2014), and an AAPG Distinguished Instructor (2007-2009).

Unquestionably, he is a recognized leader in development of comprehensive integrated geological-geochemical models for hydrocarbon source rocks and lake depositional systems. He applied seismic mapping of source rocks in marine environments and developed industry-standard models for sequence-stratigraphic analysis of hydrocarbon-system potential of marine mudstones, coals, and lake systems, including exploring in the pre-salt plays in the South Atlantic and other rift-related plays worldwide. These insights have been used to find hydrocarbons on Earth, and even in the evaluation of multi-billion-year-old lake deposits in Gale Crater, Mars (NASA Curiosity Rover).

His community service positions include more than 50 years as a volunteer firefighter, emergency paramedic, and disaster services responder with the American Red Cross, serving in many roles from local American Red Cross Health and Safety Services, teaching first aid, CPR, and emergency medical response. He has served as an assistant scoutmaster and scoutmaster of Troop 113, Alief, Texas, since 1981, including geology instructor at Philmont Boy Scout Ranch.

In the early 2000s Kevin led a task force that developed

ExxonMobil's geoscience field safety process, now adopted as the standard by industry and academia. With Steve Oliveri, he co-developed the AAPG Geoscience Field Activity Safety Manual (among the top 10 AAPG best sellers). He practices what he preaches regarding safety in the field; during field work in the Mowry Shale in 2007, I was moving a field vehicle and Kevin gently instructed me to "put both legs inside the vehicle when backing up." Also, while in graduate school at MIT, many times Kevin would arrive to class straight after an all-night response to a fire or other disaster.

Given that mudstones and shales constitute 70%-80% of the stratigraphic record on Earth, one of Kevin's greatest "disappointments" was that many geologists did not fully incorporate how the complex, yet systematically varying, mudstones fit into their geologic worldview. In 2012, Paul Edwin Potter, (2016 AAPG Sidney Powers awardee and co-author of the classic 1980 book *Sedimentology of Shale*) remarked to me that "Kevin's avant garde papers (are) years ahead of the pack." The daunting task of educating our geologic community regarding shales was pioneered by Potter in 1980, and now is addressed for all geoscientists in the 2022 AAPG Memoir 126 (*Sequence Stratigraphy: Applications to Fine-Grained Rocks*) - a "disappointment" no longer! Not coincidentally, AAPG Memoir 126 pays homage to the classic 1977 AAPG Memoir 26, which launched the sequence-stratigraphy revolution. AAPG Memoir 126, is a tour de force and is destined to become the essential guide to understanding fine-grained rocks.

It has been my honor to have worked with Kevin for more than 40 years, to learn from him in the field, in the laboratory, and in the classroom, but most of all to share friendship with this unique and clever fellow. Kevin truly is a modern Renaissance man with deep knowledge in many scientific fields and the ability to integrate those fields of study.

Kevin's co-pilot and wife, Susan Mitterling, is happy when he is out in the field doing what he loves, but is even happier when he returns home without grizzly bear scars—and to fix whatever broke in his absence.

Kevin's advice to others: Listen to the rocks, be open to being surprised, be humble in the face of nature, and do not be afraid to be wrong - and to admit it.

Quinn R. Passey

Response

To be selected for the Powers Award brings a wide range of emotions—a profound sense of blessing, gratitude, and humility, great joy, delight, and, well, surprise and amazement. I mean, I was just exploring my curiosity, looking at rocks, and trying to devise more effective, efficient, safe, and environmentally sound ways of finding and producing hydrocarbons to help relieve energy poverty … and here I am, 52 years later.

With all due respect to the Awards Committee, when I look at the list of Powers awardees, starting with Wallace Pratt, I do indeed wonder what I am doing on that list. But it is a familiar neighborhood because I have been blessed to have worked with, and learned much from seven of them: Pete Vail, Bob Mitchum, Bert Bally, Bob Weimer, Ken Peters, Dietrich Welte, and Paul Potter, plus many other colleagues and friends of similar caliber, in and out of ExxonMobil. Quinn Passey, one of those esteemed friends and colleagues, has listed most of them in my biography, and I could not have been even considered for this award without them and their support, encouragement, tolerance, and friendship. I will continue to follow their guidance—to share some thoughts on what helped me in my career, some success factors … besides them, of course.

The attraction of the energy industry in general, and Exxon/ExxonMobil in particular, was access to a wide variety of data from around the world, a constellation of brilliant and tolerant colleagues, the discipline of having your hypotheses tested by the rotary lie detector, and a very short and direct feedback loop … as well as the discipline of being rewarded for making things simple and usable in practice (as opposed to other areas of geology where one is rewarded for making things complicated). Plus the never-ending reminders that we are here to make money for the widows, orphans, and retirees who own the corporation, and not just to find oil and gas. These factors enabled us to develop our general classifications of marine and lacustrine source rocks, to place coal-bearing rocks into a sequence-stratigraphic framework, patent a method for probabilistic prediction of source rocks, and to translate what we learned about source

rocks into practical tools for shale-gas/shale-oil reservoirs.

I was also constantly reminded that nothing you learn ever goes to waste. At university, through the strong guidance of my advisors, I suffered through a year of P. Chem, many semesters of fluid mechanics, and enough math to be a math major, all the while thinking that all I wanted to do was look at rocks. But then I spent most of my career helping to keep the geo- in geochemistry and trying to see the rocks through the seismic data—after starting with the clastic facies group at Exxon Production Research Company (EPR). There, I was in on the ground floor of developing practical tools for applying sequence stratigraphy to well logs, cores, and outcrops and took part in the great clastic versus carbonate-parasequence crusade. It was an interesting time indeed. If I had a question about sequence stratigraphy, I could just walk down the hall and pop into the office of Pete Vail or Bob Mitchum or Chuck Campbell or John Van Wagoner, have an intense discussion, and leave with my head spinning with new ideas, insights, and challenges. This taught me to not be afraid to approach or correspond with the "big names" in our field—most of them are always happy to talk about their work with someone who is interested. I also learned to honor the legacy of my elders and to learn from them. We study the past to learn what mistakes we already know how to make, so we can go on and make new and better mistakes.

I was then given the great opportunity to work with EPR's Petroleum Geochemistry group to show that hydrocarbon source rocks (mostly shales/mudstones) are deposited layer by layer just like all other sedimentary rocks and the utility of sequence stratigraphy for understanding and predicting them. This approach certainly contributed to our entry into such plays as offshore Angola, Nigeria, and Guyana, and, just as importantly, to staying out of other places. What helped us develop those tools was our early work on the Monterey Formation of California—quite literally the deep end of deepwater, complex source rocks, with the full range of rock types from sand and gravel, through biogenic and diagenetic carbonates and cherts, to mudstones and phosphorites. Our success was the result of the collaborative work of an integrated team of plate pushers, paleoceanographers, basin modelers, geophysicists, stratigraphers, sedimentologists, paleontologists, and geochemists applying the full range of approaches from plate tectonics to molecular and isotopic geochemistry … and the field work in coastal California didn't hurt either. This work gave us the confidence to apply our approach more widely; I mean, if we could figure out the Monterey, how hard could other source rocks be?

Our subsequent work and development of a general classification for source rocks across all environments was based on looking at a lot of examples across diverse ages and settings at a medium resolution, then selecting representative ones to dive into great detail. This allowed us to see the common elements, the essential attributes shared across settings, and not get hung up on accidental details.

We could not have made all our advances without spending a lot of time with the rocks, in the core shed and, most importantly, on outcrop. I helped develop our Field Safety program to support our ability to go out on the outcrops in a safe, effective, and efficient manner. Like our other projects, this program benefitted from the input of experienced colleagues with a broad range of skills and experience in field operations, emergency response (fire, rescue, emergency medical services, law enforcement), and safety and risk management with ExxonMobil and many other organizations (American Red Cross, Boy Scouts, Girl Scouts, National Outdoor Leadership School). Through the strong support of ExxonMobil and AAPG, the field-safety process has become a de facto industry standard that has even been adopted as part of NASA's astronaut-training program.

None of this (especially Memoir 126) would have been possible without the love, encouragement, and willing suspension of disbelief of my dear wife, Susan Mitterling, chair of my Continuous Improvement and Humility committees. She has endured many AAPG meetings and other conferences with me, contributed many of the challenging scenarios in our Field Safety Leadership short course, and listened to my lake and source-rock talks so many times that she could deliver them herself.

I thank AAPG for contributing significantly to my personal and professional growth by putting me into contact with great ideas and great people who are dedicated to improving our world through the thoughtful use of science. This organization, along with SEPM, shows the power of a group of enthusiastic and committed volunteers to advance science and encourage its application to practical problems. AAPG's embrace of the Field Safety program has helped keep us all out in the field and preserve access to key outcrops.

All that time on the rocks, thanks to our Field Safety program … and the infinite patience, tolerance, and support of my wife Susan Mitterling (including the fossils and key samples she finds in the field) … also showed us that computer models are useful tools for understanding observations, but their output are not observations. As Robert Heinlein wrote in 1973, "…the most sophisticated machine the human mind can build has in it the limitations of the human mind. Anyone who thinks otherwise does not understand the Second Law of Thermodynamics." Or, as Mother always said: "Don't fall in love with beautiful models—they will only break your heart." Direct contact with nature is a great way to remain humble … and to heal a broken heart. So do get out on the rocks and listen to them. As Ernest Shackleton wrote "I believe it is in our nature to explore, to reach out into the unknown. The only true failure would be not to explore at all." Be careful out there—and have fun!

And, well, you never know where your knowledge and colleagues will get you down the line. Thirteen years ago, our work on lake deposits and interactions with John Grotzinger over the years (and his embrace of many and diverse viewpoints) resulted in my playing a teeny tiny part in helping to select a landing site for the Mars Science Lab rover Curiosity and to interpret the lake deposits in Gale Crater. When some asked John why he had invited such oil trash to contribute, he paused for a moment, and then said "Let's see, what are we trying to do? We are going to spend a lot of money, to go to a place very far away, selected on remote-sensing data, to drill some holes, to look for organic matter … Is there anyone who might know something about doing that? Oh, wait, that's Kevin's day job!" So, if you need me, I'll probably still be looking at rocks on Mars, please God.

Kevin M. Bohacs

CHARLES A. STERNBACH

Michel T. Halbouty Outstanding Leadership Award

Citation—For four decades of service and science fulfilling AAPG's mission. As president of AAPG, GCAGS, HGS, and DPA, Charles's rainmaking packed the house, made money, and left a legacy. Tens of thousands attended Discovery Thinking Forums, Super Basins, Playmakers, Annual Conventions, Giant Field Memoirs, Bulletin Special Issues, 50+ Datapages citations.

Service Leading to Geoscience. Charles A. Sternbach has explored and discovered energy in the United States and around the globe for 40 years. AAPG recognizes him with the Halbouty Outstanding Leadership Award for a lifetime of service that leads to geoscience. Perhaps even more importantly for the profession of petroleum geology, he has led every geoscience organization he has joined and has made a tireless avocation to preserve the spirit and history of our proud profession. The Petroleum History Institute recognized him as a "keeper of the flame" for petroleum geology (2012).

Thinking Big. Charles's research interests include giant oil and gas fields, creative thinking, and the recent energy renaissance in global super basins—sedimentary basins endowed with the richest energy deposits. He has published on these topics and has offered industry courses on exploration creativity.

Charles met his lifelong partner and fellow petroleum geologist in graduate school, Linda Sternbach. For the last 43 years, their joint contributions to petroleum geology and professional organizations have paralleled and propelled them. They also share a deep interest in astronomy, space exploration, mentoring young people, and traveling worldwide.

Career Journey from Major Oil Company to Independent. Charles began his professional career as a staff geologist for Shell Oil Company. At Shell, he explored the Michigan, Permian, and Williston Basins. Later, Tom Jordan (Jordan Oil and Gas [JOG]) hired Charles as Houston exploration manager, a good fit with Charles's "big picture" approach to exploration and ability to communicate. Charles accepted the JOG position, negotiating that he could attend AAPG ACE every year.

After 7 years, Charles and Linda formed First Place Energy (international frontier exploration), followed by Star Creek Energy as independent consultants and exploration project participants. Magnetar, a company dedicated to conventional onshore Gulf Coast exploration, recently named Charles to their Board of Directors.

While creating and leading business ventures, Charles took time to mentor future geologists when he was appointed adjunct professor and Energy Fellow at the University of Houston in August 2018. (https://uh.edu/nsm/earth-atmospheric/people/faculty/charles-sternbach/).

Volunteer Service as an Engine to Geoscience. To say Charles Sternbach has contributed to geoscience organizations and the dissemination of knowledge is an understatement. His business sense and organization skills have led him to be president of AAPG, GCAGS (the most populous Section of AAPG), HGS (the most active local geological society in the world), and DPA (the professional division of AAPG).

Charles self-describes his contributions to AAPG as "rainmaking." That's appropriate, as his involvement is predictive of a top-notch event with highly qualified participants, a relevant and inspiring program, full seats in the audience, and profitability! Tens of thousands of geoscientists have attended his inspired programs, including Discovery Thinking Forums, Super Basin programs, Playmaker Conferences, Annual Conventions, Giant Field Memoirs, *AAPG Bulletin* special issues, and many presentations and articles.

Charles' career, in retrospect, leads me to observe that his extensive Service to AAPG and the profession of petroleum geology offer examples of service in volunteer leadership roles as engines for scientific contributions. Relationships with subject matter experts and leadership positions have prompted Charles to many insights and pioneering projects. Some examples follow.

AAPG Annual Conventions (2002-2006). Charles believes that well-chosen themes should define convention "mission patches." In 2002, "Our Heritage, Key to Global Discovery" involved Mike Halbouty. In 2006, "Perfecting the Search—Delivering on Promises" showcased science and business. Both conventions had more than 8300 attendees.

AAPG 100th Anniversary Committee Chairmanship Leads to Discovery Thinking. As a young geoscience professional, Charles realized analogues, stories, and experiences are crucial to model exploration efforts. Case studies of success accelerate wisdom. Charles foresaw the value of more opportunities to interact with discoverers, but they didn't exist. So, he applied his energy and created learning opportunities for successful explorers.

He originated the Discovery Thinking (D.T.) program and manned the podium for the last 28 forums since April 2008, with past co-chairs Ed Dolly, Paul Weimer, Bob Merrill, Ted Beaumont, 100+ speakers, and more than 12,000 attendees.

In July 2019, he wrote "The Discovery Thinking Forum is a strategic advantage for AAPG. Geologists are problem solvers and integrators. In the community of geophysicists, engineers, and financiers, geologists integrate case studies that advance the success of all." Discovery Thinking continues to pack the house.

Last year, D.T. was the number one session attended at IMAGE—a room with 500 chairs and many attendees standing. Charles and Mike Forrest plan another D.T. for August 28, 2024, to integrate case studies of global geological and geophysical success. This forum will be the 29th D.T. in 16 years. Many have told him they never miss a D.T. session and attend IMAGE because of D.T.

DPA Presidency (2013-2019), Leads to Playmakers. As DPA president, Charles' mantra was "From prospects to discoveries, professionalism leads the way." Playmakers was an actionable plan to create one-day immersive programs on plays, trends, or basins. From 2013 to 2019, Playmaker events packed the house, made money for AAPG/DPA, and left a legacy. More than 2500 participants attended 12 events, one in

every AAPG Section and many AAPG Regions, netting $300,000 above overhead to AAPG/DPA.

AAPG Presidency Leads to Super Basins. The unconventional revolution clarified that AAPG would start its second century (2018) less by going to frontier basins and more by returning to the richest petroleum basins with new ideas and technology. To meet the moment, Charles used his AAPG presidency platform to engage volunteers with a challenging five-year plan of conferences and publications building on the early thought leadership of Bob Fryklund and Pete Stark (S&P Global).

Charles published the "Super Basin Initiative" in Mach 2018, "The *AAPG Bulletin* introduces a new initiative for its second century–the super basin series. We plan to build a legacy of foundational papers on the world's top petroliferous areas that will be an important component of AAPG conferences and technical events." Promise made, promise kept.

Charles said at conference opening remarks, "We begin a trip on the AAPG Ship of the Imagination, a dream liner jet, which we will refuel when we stop at many of the world's richest petroleum basins where basin experts will be our local guides. We will return wiser and with new analogsue. Wi-Fi will connect us to past wisdom during the flight via Search and Discovery and Datapages."

Mentorship leads to Giant Field Memoirs and Halbouty Lecture (IMAGE 2021). Charles was fortunate to have a special relationship with Michel T. Halbouty. They met frequently for many years. At Halbouty's request, Charles spoke at his funeral, with President George H. W. Bush in the audience. How does one get such a mentor? His first reach out was an offer to help Halbouty, and they shared many common interests. A lesson for all of us about mentoring!

HGS 100th Anniversary Committee leads to GeoGulf23 General Chair and GCAGS revitalization. Charles believes that affiliated and local societies provide excellent value to AAPG. They create a training ground for volunteer leadership, grassroots technical programs, and a pipeline of young members.

Students often make their first contact with AAPG through local societies. For many, a carpool to attend a local meeting is more affordable than flying to a national convention. The HGS is an excellent example of an affiliated society with much to offer AAPG. The HGS has outreach programs at the Houston Museum of Natural Science, Maps in Schools for K-12, undergraduate and graduate scholarships, a job fair, and a NeoGeo group to welcome new hires to Industry. Now, that's an integrated pipeline!

As general chair for GeoGulf23, he set the theme, "United we Explore the Gulf of Mexico and Beyond," to remind everyone that geoscience unites the Gulf Coast societies to each other and AAPG. GeoGulf23 created a new blueprint of operational efficiency for future GCAGS events. And GeoGulf23 delivered the "energy of now" with gratifying attendee comments like these:

- "Loved the petroleum aspects. Let's do more."
- "GeoGulf was an incredible value. More science and less cost."
- "We still have a lot of exciting geoscience work in the Gulf of Mexico!"

Charles is grateful to GCAGS, which will award him its highest honor, the Don Boyd medal, in April 2024.

Concluding Thoughts. AAPG has been integral to Charles Sternbach's professional career. He has endeavored to use every opportunity for volunteer leadership service to create science at local, sectional, and global levels to (1) pack the house, (2) make a profit, and (3) leave a legacy.

A favorite memory of mine was when Charles persuaded AAPG's past president and legendary wildcatter, John Amoruso, to present his Amoruso Field Bossier gas discovery case history at a Discovery Thinking panel in New Orleans. Reluctant to publicly speak about his success, John gave a fascinating story of perseverance and creative geologic thinking we might have never heard. Both were key players in my career, brought together at Charles' initiative to benefit all our profession.

Over the decades of our friendship, it has been my honor and privilege to work with Charles and Linda. Initially, I believed I was mentoring him, but then I realized

it's a two-way street, and often I am the one being mentored!

Jeffrey W. Lund

Response

I thank Jeff Lund for citing how my volunteer service advanced geoscience. My goal was always to pack the house, make money for the host organization, and leave a legacy. I thank 500+ fellow content creators, many of whom became dear friends like Jeff. I thank tens of thousands of geoscientists who participated in these programs. Together, we achieved a lifetime of audacious comfort-stretching goals. I hope the stories and resources below help you in your journey.

Beginnings and Guideposts. My journey with AAPG starts with geology. I never met a subject I liked better. I earned three degrees in geology and married two more. My spouse, Linda, is also a geoscientist (with a B.S. and M.S.). Our first date was a geology field trip, and as I recall, we shared a sandwich on an outcrop.

My first geology mentor, John Sanders at Barnard/Columbia, told me, "Join AAPG. Do it now" (1980). Columbia College's affiliation with Lamont Doherty was a boon. The words over the entrance of Schermerhorn Hall greeted me daily: "Speak to the Earth, and It will teach thee" (Job 12:8).

As coxswain of the Columbia crew, I navigated a fragile racing shell with eight big guys facing me. When birds, winds, wakes, and flotsam impeded us, I maintained course by steering towards distant guideposts. Decades later, I set my guidepost as the AAPG mission in every leadership role I was privileged to hold.

My first job was editing Gerry Friedman and John Sanders's *Principles of Sedimentology* textbook (1978). Gerry's motto was "Be friendly and helpful." His leadership at SEPM and AAPG served as an early role model. I was honored to write Gerry's Sidney Powers Citation, his memorial, and co-edit an AAPG Special Publication with him and Marlan Downey, *Discoverers of the 20th Century* (2003).

Volunteer work began early. In graduate school at Rensselaer Polytechnic Institute, Linda and I took turns as AAPG Student Chapter president. We organized department seminars, and attendance went way up. Recruiting good speakers is a talent we continue to perfect and one that has come in handy for AAPG.

Learning to Pivot: The Ph.D. Conundrum (1980-1984). My Ph.D. Department Of Energy grant expected me to document porosity reduction with depth in carbonate reservoirs in the deep Anadarko Basin (25,000-30,000 ft). Instead, improved reservoirs with depth meant I needed a pivot, so I expanded the boundary conditions by including the geochemical interplay of the Sylvan Shale with the overlying Hunton carbonates. For Star Trek fans, my "Kobayashi Maru" enabled me to complete my M.S. and Ph.D. in 3.5 years. I presented my first technical paper at the 1984 AAPG Southwest Section in Midland, Texas, where operators were eager to hear about deep overlooked reservoirs.

Bring Value, Everyday. In the 1980s, Shell participated in Michigan's Prairie du Chein drilling boom. My first presentation to management on Devonian secondary objectives was a total disaster. My boss said, "Great job describing depositional environments and diagenesis. Can you tell us something useful, like how to find profitable oil and gas?" This "kick in the pants" served me well for the rest of my professional life. After that, I was fortunate to discover six deep gas fields and was bitten by wildcatter fever.

Reminded by the lesson above to bring value to my employer with every assignment, I developed a prospect ranking methodology for the Arkoma Basin. I used Allan fault plane maps at the famous Wilburton field to stress test prospects and avoid expensive dry holes. I presented this model at AAPG (1993).

I enjoyed meeting people at HGS and AAPG. We exchanged ideas, opportunities, and business cards. Soon, I needed more cards. My admin said, "Wasn't your last box of 1000 enough?" Networking allowed me to bring information and partnership opportunities to my employer that distinguished me from my peers.

AAPG Life-Changing Events (1997). On April 7, 1997, at Dallas ACE, I attended "A Legendary Tale" with Michel Halbouty, John Masters, Bernard Duvall, Tom Jordan, and John Masters, chaired by Jim Gibbs. I sat in the front row. I later formed friendships with all the speakers. I mentioned this in my AAPG 2018

presidential address as an example of the transformational programs that AAPG can provide. https://www.aapg.org/videos/event/articleid/47388

HGS Legends Panels (2000-present). As HGS President, I created the Legends in Wildcatting Program. Packed audiences are among my fondest memories. In total, more than 5,000 attendees participated. There is a legacy of videos, including the 2024 program with Bill Armstong on the HGS Education YouTube channel (thanks to Linda Sternbach). https://www.youtube.com/@HGSGeoEducation/videos

AAPG Discovery Thinking (2008-present). As I said in a July 2019 *Explorer* interview, "The explorer holds up a prospect alongside an enviable field, weighing similarities and differences, and finally must decide - using all available information and intuition - to risk capital, to drill, and with luck, to discover a new analogue for the next explorer." If you want to accelerate exploration wisdom, here's a link to binge-watch analogues: https://www.aapg.org/resources/videos/dpa/discovery-thinking

AAPG Super Basins (2018-2023). AAPG held 17 super basin-themed events, including four Super Basin Leadership conferences that generated significant net revenue for AAPG (>$325,000). I thank co-organizers Bob Fryklund and Mike Party. Fifty-nine presentations from these programs appear on the AAPG Super Basin Events webpage https://superbasins.aapg.org/2020/about/global-super-basins-past-presentations

We built an analogue playbook for approximately 20 global super basins in four *AAPG Bulletin* special issues. I thank co-editors Claudio Bartolini and Robert Merrill, more than 5700 geoscientists who attended 17 AAPG super basin-themed events from 2018-2023, and 200+ speakers and authors who contributed to these conferences and publications.

A few treasured memories from hundreds of joyful geoscience collaborations include (1) Dr. Layaan al Kharusi presenting her first technical presentation on Oman to a warmly receptive audience, (2) helping Paul MacKay and Per Pedersen team up on a paper on Western Canada, and (3) chairing a Global Women's Leadership Forum on Super Basins attended by 800.

AAPG Giant Field Memoirs and Halbouty Lecture (IMAGE 2021). I am grateful to co-edit Giant Field Memoirs 113 and 125 with Bob Merrill and John Dolson and to present papers on giant fields with Richard S. Bishop. These efforts continue AAPG's six-decade tradition of thinking big and studying giant fields started by Halbouty in 1970.

From 2001 to his passing in 2004, Mike Halbouty insisted that we sit together at Halbouty Lectures. He shared unfiltered feedback. He liked maps and cross sections and hated creaming curves. I remembered these lessons when I gave the Halbouty Lecture (2021) on super basin thinking. I felt Halbouty's presence, especially when his grandson, Michel Halbouty Hewitt, flew to Denver to attend my talk. https://www.youtube.com/watch?v=vGzt5Bs70Nc

AAPG Foundational Papers (2021). Columbia College requires reading a core curriculum of great books. Similarly, every geologist should read foundational AAPG papers and contribute to our geoscience heritage.

I wrote about a "quick look technique" in a December 2021 *Explorer* article to benchmark and improve scientific contributions to AAPG. How many citations do you have on Search and Discovery or Datapages? Make a plan to give talks and write papers. The more citations, the more you are in tune with AAPGs mission of science and professionalism. https://explorer.aapg.org/story/articleid/61976/power-up-with-powers-medalists

AAPG Affiliated and Local Societies Provide Great Value. I encourage all geoscientists to participate energetically in their local societies and AAPG. Linda and I have been presidents and received HGS's highest award, the Gerald A. Cooley Award. We have been particularly active for the last 25 years, co-chaired the HGS 100th Anniversary Committee and Gala, and edited the 100th Anniversary Special Issue Bulletin (with Craig Dingler), chronicling how HGS has made considerable contributions to society, the GCAGS, and AAPG. https://www.hgs.org/sites/default/files/bulletins/HGS%20Special%20100th%20anniversary%20issue.pdf

Conclusion. Raise your hand early and often, stay mission-focused, learn to pivot, bring abundant value to your employer/stakeholder in every assignment, measure and

improve your technical contribution to AAPG, and support AAPG-affiliated societies. As a proud member of AAPG, I strive to improve my Datapages citations, which are currently at 55. When given a leadership spotlight, shine it on the good deeds of others.

Acknowledgments

- Kudos to 500+ geoscientists who responded to my challenge to write or present technical papers, strengthening AAPG's mission of science and professionalism.
- Jeff Lund, my citationist. We have an extensive photo album of "high fives," having teamed up frequently, always successfully, over the last 30 years.
- Linda Sternbach, my field trip partner in life.

Charles Sternbach

TIMOTHY R. CARR
Honorary Member Award

Citation—To a visionary geologist, scholar, and teacher. For his outstanding contributions to geoscience, support of the energy industry and service to AAPG.

Tim Carr's service to AAPG includes membership in four committees spanning 27 years, 15 years on the Visiting Geologists Program, a term on the Advisory Council, the organizing committee of a Hedberg conference and as editor of the resulting AAPG publication. Tim also served as technical program chair for the annual meeting in 2013, Organizing Committee of URTEC in 2019, and several positions, including president, with the Eastern Section of AAPG.

Impressive as his service to AAPG is, it represents a fraction of his service to the geoscience community and to the energy industry. Tim received a four-year scholarship to study economics at the University of Wisconsin and graduated with a degree in economics in 1973. However, in 1971, a field trip to the Yukon with Professor Lowell Laudon led him to also meet the degree requirements for a geology major. Except for physics. Along the way, Tim had met his future wife, Margaret, whose father taught the introductory physics course. So, Tim graduated with a degree in economics, married Margaret and moved to Lubbock, where he made up his physics deficiency and earned a master's degree at Texas Tech University, with a thesis on Wolfcamp-Leonard units in the Glass Mountains.

After earning his masters, Tim and Margaret returned to Madison where Tim was a teaching assistant in paleontology courses while earning his Ph.D. in 1981. I first met Tim shortly after, when we were both Senior Research Geologists at Arco's Research Center in Plano, Texas. Tim's specialties were Paleozoic stratigraphy and quantitative stratigraphic techniques. Brad Robinson, one of Tim's assistants in his conodont lab, remembers this: "Tim spent weeks at a time collecting rock and paleo samples … and once the summer sample collecting and field mapping were over, we spent the remainder of the year processing and evaluating thousands of paleontological samples … a typical Tim sample was 2 kg minimum. The samples often arrived at the lab on a 500 lb pallet shipped bulk freight from places such as Norway, Greenland, Alaska, etc. Each and every one of these 2 kg samples were collected by hand, and backpacked miles up and down mountains until they could be packaged and shipped back to Dallas, Texas."

As Tim was developing the stratigraphic and tectonic framework for Paleozoic interior basins of Alaska and the North Atlantic in the early 1980s, ARCO Research was beginning to focus on sequence stratigraphy and Tim was an early adopter. Tim and David Budd received a major technical award for applying sequence stratigraphic models to the Carboniferous Lisburne Group in Alaska in support of the waterflood project at Prudhoe Bay. His work in Alaska also included a field season with Anaconda Minerals (an ARCO subsidiary) on the Seward Peninsula, where Tim's discovery

of Paleozoic conodonts in what was thought to be a Precambrian metasedimentary complex drastically changed perceptions of the mineral potential and geologic history of the region. Tim also was an early advocate of using the color alteration of conodonts as a guide to thermal maturity.

In the mid 1980s that I got together with Tim and Alton Brown to teach a graduate-level stratigraphy class at Southern Methodist University, foreshadowing Tim's future career direction. But first, Tim left ARCO's research center for exploration assignments in Bakersfield and Midland. In Bakersfield, he used sequence stratigraphy and three-dimensional seismic data to develop drilling locations in Landslide field. In Midland, he had a similar two-year assignment as a principal geologist, before taking a position in 1992 as the chief of Energy Research at the Kansas Geological Survey (KGS), co-director of the Energy Research Center and adjunct professor at The University of Kansas.

One of his most important, long-lasting contributions at the KGS was his push toward making the state's oil and gas data digitally available. Tim also worked with the Kansas Corporation Commission to develop an online reporting and permitting program. Ever the visionary, Tim led the KGS to drilling one of the first horizontal wells in southcentral Kansas and to using CO2 from an ethanol plant for an enhanced oil recovery project. He also started the first national carbon storage atlas of sources and sinks (NATCARB) and worked on neural network techniques for reservoir modeling. While at Kansas, Tim was also the coach/manager/spiritual advisor to the KGS softball team, assisted by his young son, Joe.

In 2007, West Virginia University (WVU) came calling with an offer Tim could not refuse: the Marshall Miller Distinguished Professor of Energy, which he held until his appointment as emeritus professor in 2022. Tim also served as director of the Unconventional Resources Initiative at WVU for 3 years and department chair for 5 years. At ARCO and at Kansas, Tim had mentored and encouraged a number of students, but at WVU, Tim influenced hundreds of students. Tim has served on 118 graduate student committees including 49 where he was chair. Tim authored or co-authored 96 publications and his research grants total $53 million, much of went to support students.

I reconnected with Tim in 2014, when I began working on the Marcellus Shale in Pennsylvania, and discovered that Tim directed the Marcellus Shale Energy and Environment Laboratory (MSEEL), which provides a long-term field site to develop and validate new knowledge and technology to improve recovery efficiency and minimize environmental implications of unconventional resource development. Tim had become an early advocate of extended reach wells, using fiber optics for monitoring horizontal wells, and other techniques for optimizing unconventional well completion and spacing.

In recognition of his leadership and scholarship, Tim received three Levorsen Awards for Best Paper from three different AAPG Sections, numerous Best Paper and Best Poster Awards, 11 separate Certificate of Merit Awards from AAPG, and Honorary Membership to the Eastern Section of AAPG. He is Emeritus Marshall Miller Distinguished Professor of Energy at WVU and Emeritus Senior Scientist at the Kansas Geological Survey, although Tim and Margaret have retired to their home in Washington, overlooking Puget Sound.

Tim Carr, husband, father, scholar, author, researcher, teacher, mentor and strong supporter of AAPG greatly deserves the AAPG Honorary Membership Award.

Joe Davis

SATINDER CHOPRA
Honorary Member Award

Citation—An extraordinary researcher, author, and teacher, with an untiring passion for geoscience, in

recognition of his outstanding contributions to geophysics research and applications.

Over the past 38 years, Satinder Chopra has generously served the geoscience community through his exemplary contributions in advancing the state of the art. Satinder's contributions range from illustrating how to map structure and stratigraphy using seismic attributes to more quantitative reservoir characterization using impedance inversion and machine learning. Satinder was honored with awards for both Best Oral Presentation and Best Paper awards from AAPG, as well as from other geophysical societies. However, he is perhaps best recognized by our members for the 85 articles (and counting!) in the *AAPG Explorer*.

Satinder earned his master's and M.Phil. degrees from Himachal Pradesh University, Shimla, India, where his dissertation was titled "*Horizontal and Vertical Junction Solar Cells*." His experiences since that time have wandered far from the efficiency of different solar cells. Though trained as a physicist, he learned geophysics on the job in 1984 when he joined Oil and Natural Gas Corporation, the leading national oil company of India. After working there for nearly 14 years, in 1997 Satinder migrated to Canada and joined CTC Pulsonic where he continued his work on special processing projects at Scott Pickford, Core Labs, Paradigm Geophysical, Arcis Seismic Solutions, and TGS. In August 2020, he founded SamiGeo Consulting Ltd.

Satinder has many strengths. First, he is always open to new technology ideas, both to use them and sometimes to break them, and then to apply them to applications for which they were not originally designed. Second, he likes to document his findings, sometimes as a new development, sometimes as a pitfall, and sometimes as a tutorial through journal publications, posters, oral presentations, short course instruction, books, and of course the Geophysical Corner of *the AAPG Explorer*. Third, Satinder's enthusiasm and love of geoscience technology inspire students and young professionals and reinvigorate more "seasoned" and sometimes skeptical professionals.

Satinder feels particularly fortunate to have had access to the Arcis/TGS seismic data library to test and improve his ideas and workflows from data volumes from around the world, ranging from legacy to state-of-the-art high-density three-dimensional land surveys to modern high-resolution three-dimensional marine surveys. Working closely with his colleagues, he has shown the importance and impact of the processing shop, from the mundane (statics), to the complicated (five-dimensional interpolation), to the sophisticated (converted waves and anisotropy) on the end-use seismic interpreter.

Satinder is a race-car driver rather than a race-car mechanic. He doesn't develop new algorithms; rather, he takes them to places they were never intended to go, scraping the guard rails along the way. During the 30 years I have known him, he has "driven" coherence, curvature, spectral decomposition, spectral balancing, bandwidth extension, impedance inversion, lambda-rho/mu-rho analysis, and more into what were then less-traveled roads of shale resource plays, tar sands, CO_2 sequestration, and azimuthal analysis of faults and fractures, as well as through the more traveled roads of conventional clastic and carbonate reservoirs.

Satinder's contribution to the geoscience community includes more than 250 presentations at conventions and workshops, as well as more intimate local society meetings ranging from Bogota and Buenos Aires to student expos in the United States and Canada. He served as production editor and later the chief editor for the *CSEG RECORDER* for 11 long years overseeing 108 regular issues and 4 special issues. During this time, he conducted and published with the help of Penny Colton (photography wizard) more than 200 interviews of leading geoscientists and petroleum engineers as they passed through Calgary, a truly unique contribution in capturing the insight and perspective of our colleagues for posterity. He is the lead author of books on seismic attributes and on amplitude versus offset, and editor of books on heavy oil and gas hydrates. He is currently my taskmaster for a new book on attributes and impedance inversion to be released in 2024.

Satinder has always believed in education and training and has a passion for teaching. Those of us who know Satinder have come to appreciate the love he has for his

work. "Uncle" Satinder is a beloved mentor of students at the University of Oklahoma and the University of Calgary, always willing to share his expertise and offer encouragement. One of the highlights of his career was the opportunity to visit 10 schools in Canada as the 2010-2011 distinguished lecturer, which of course, being Satinder, he documented in a three-part *CSEG RECORDER* "diary." Satinder carries his love of teaching to professionals through the CSEG Doodletrain, Petroskills, PetroGroup, and Nautilus continuing education programs.

Satinder lives in Calgary with his wife of 40 years, Amrita, a French language educator, with a daughter, a physician in New York City, and a son working as an electrical engineer for Berkshire Hathaway Energy, in Calgary. He currently provides services to the geoscience resource community through his company SamiGeo.

It is my greatest honor to cite my friend and colleague, Satinder Chopra, for his outstanding technical contributions and personal service to the geoscience community as we bestow upon him the AAPG Honorary Member Award.

Kurt J. Marfurt

Response

To be recognized by peers and be included amongst the distinguished previous recipients of this award is a dream come true. The privilege of receiving this award, the AAPG Honorary Membership Award, is truly appreciated and heartfelt by me. AAPG has provided a forum and a home for me to pursue my passions of geophysics, publishing, and writing. For that I am deeply grateful, and I am humbled by the recognition being bestowed by the Society which means so much to me.

Back on September 7, 2023, I received a call, and not recognizing the number or caller, I assumed it was a spam call and did not answer. But a few moments later, I got a message saying, "This is Claudia Hackbarth, president of AAPG. I have some very nice news for you." I wondered what this good news might be … surely it couldn't be an AAPG award as I had already received three (for distinguished service, best poster, and oral presentations). Perhaps it was something related to the number of reads of the Geophysical Corner, or a similar thing related to AAPG initiatives I've been involved in. Confused, but intrigued, I messaged back, apologized about not receiving the call, and asked if I could call back. On receiving the affirmative, I was able to connect with Claudia, despite my initial fumble. It was both surprising and exciting to speak with her about the award.

I would like to sincerely thank the AAPG Honors and Awards Committee for conferring the honor, the individuals who may have submitted and supported my nomination, and my long-time friend, collaborator, and now biographer, Kurt Marfurt, for agreeing to write my citation.

I am a physicist by training who learnt geophysics on the job when I joined the leading national oil company of India, Oil and Natural Gas Corporation (ONGC), back in 1984. Until the time I migrated to Canada in late 1997, I had only attended a few conferences within India, with presentations made at a couple. The only exception to that experience was the opportunity I got to attend the EAGE Conference in Geneva in the summer of 1997. This experience opened my eyes to the difference in scale at which the event was organized, and the rich and global nature of oil and gas exploration. I made several new contacts there and learnt about the EAGE publications, which impressed me thoroughly. Besides, Geneva is also a beautiful place to visit.

On reaching Calgary and beginning to work for a service company in September 1998, I gradually started participating in the luncheons, workshops and conventions being organized by the Canadian Society of Exploration Geophysicists (CSEG). Occasionally, I would also get the opportunity to attend the events organized by the SEG in Calgary, such as the Distinguished Instructor Short Course (DISC), and the Distinguished Lectures. Though I was the first editor of *GEOHORIZONS*, the flagship journal of Society of Petroleum Geophysicists (SPG), India, my first step as a volunteer in Canada was when I was appointed the production editor of the *CSEG RECORDER*, a position later renamed as chief editor. I remained in that position for 11 years. It was a big responsibility to publish 10 issues of the journal every year (no publications in the summer months of July and August).

I enjoyed working there and learnt so much. I want to acknowledge the support that I received from the members of the editorial board over the years, and most notably I would like to mention my good friend, Oliver Kuhn, the technical editor of the *RECORDER* back then. We both would think of ways we could solicit interesting articles from eminent authors and make the journal more readable for the CSEG members. Those were some of the most interesting years of my life.

Ever since the SEG convention was held in Calgary in the year 2000, I started attending the SEG conventions regularly (with the exception of 2001), and publishing articles in the SEG journals, namely, *The Leading Edge* (TLE), *Geophysics*, and *Interpretation*. I was also invited to join the editorial board of TLE, a position I remained in for 4 years. Since that time, I have published articles in the journals published by the EAGE, CSEG, SPG, and some other professional societies.

My publishing experience came to my advantage in 2012, when I got associated with the *AAPG Explorer*. On being elected as the SEG president, Bob Hardage, who was then senior research scientist at the Bureau of Economic Geology, The University of Texas at Austin, and who was looking after the Geophysical Corner column in the *AAPG Explorer*, asked me if I would like to take over the column, an offer which I gladly accepted. It has been my pleasure to be looking after it since then. I suspect that receiving this award is in large part a recognition of my stewardship of the Corner for the last 12 years. Every year 12 articles are published in this column, on geophysical topics written in simple language and without getting too technical or involving mathematical jargon. The goal has been to interest geologists and make geophysics more accessible to them.

As mentioned above, one of the responsibilities of being the editor of the Geophysical Corner column is to publish an article every month, because it is a regular feature in the *Explorer*. Even though I am constantly requesting articles from others in my circles or approaching authors who have presented at a convention or a workshop, sometimes no article is forthcoming. For such eventualities, I always keep my own articles on the back burner, which can be finalized. My partners in crime in this are my buddy, Kurt Marfurt, and my right-hand man and colleague at SamiGeo, Ritesh Kumar Sharma. One other source of Geophysical Corner articles has been the students at the Attribute-Assisted Seismic Processing and Interpretation (AASPI) Consortium at the University of Oklahoma, who present the application of new ideas on seismic data. The AASPI was very successfully directed by Kurt until his retirement recently and is now in the capable hands of Heather Bedle. The two other individuals who have been supportive of my publishing efforts are the *Explorer* Editor, Brian Ervin, and production designer, Matt Randolph; I wish to thank them for their efforts and cooperation. Lastly, I would like to acknowledge and thank my wonderful wife, Amrita, for her support, and more so, patience, over the past 39 years as I pursued my technical dream.

It is with great satisfaction that I can say not a single Geophysical Corner article has been missing in the last 12 years of the *Explorer*. To be recognized with this award for that is amazing, but perhaps even more so has been the personal satisfaction and pure enjoyment working on this column has given me. Thank you so much.

Finally, I would like to thank my colleagues at work, and the editorial board members, past and present, who continue to help me learn, discover, inform, and immerse myself in the world I love, that of geoscience, publishing, and writing.

Satinder Chopra

STEPHAN GRAHAM
Honorary Member Award

Citation—To Steve Graham for his career contributions to science,

the Association, and mentorship of students, ushering a new era of applied geoscience for the energy transition.

I'm honored to write a short biography of my hero, Steve Graham. Although I'm relatively young careerwise, I've worked for a few bosses in industry, government, and academia, and I can't think of a mentor more deserving of Honorary Membership in the Association than Steve. The AAPG website indicates contributions to science, petroleum geology, and the Association as the award criteria. These can be counted as the legacy of Steve's career. He made seminal contributions to science, from his studies of the tectonics of sedimentary basins to applications of three-dimensional seismic-reflection data and detrital-zircon geochronology for provenance and "source-to-sink" studies. He had a short career in industry following his Ph.D. at Stanford University, and contributed to petroleum geology and the Association through the training of >100 graduate students during his >40-year career at Stanford. Steve also played a leading role in defining new geoscience applications, ushering the transition of the Stanford School of Earth, Energy and Environment to the Doerr School of Sustainability.

Steve earned his Ph.D. from Stanford in 1976, working with the plate-tectonic pioneer, Bill Dickinson, and an outstanding teacher and among the world's finest geologists, Jim Ingle. I can only imagine the exciting time at Stanford as plate tectonic ideas were taking shape. I've heard stories of Steve and Ray Ingersoll "solving" the problem of "flysch" deposition in remnant ocean basins adjacent to continental collision. These guys and their contemporaries were among the first to provide the geologic context to support the geophysical evidence for plate tectonics. I'll say that qualifies as a significant contribution to science!

After Steve's Ph.D. he briefly worked at Exxon and then Chevron. I reckon Steve developed a knack for exploration at an early age, when he'd accompany his uncle in the field as a wildcatter in the Midwest. Maybe the thrill of the chase hooked him? I bet it was the opportunity to test geologic hypotheses with a drill bit that hooked him. Whatever the motivation to explore for oil and gas, Steve had a brief career in exploration, but a successful, maybe unprecedented, one. I recall he worked the San Joaquin Basin and I heard he never drilled a dry hole! Although, I've heard oil and gas managers say that if you never drilled a dry hole, you haven't drilled enough wells. In Steve's case, I recall he drilled a lot of wells and he's just that good! Steve is a great geologist, especially in the field. I was always blown away by his ability to assimilate a lot of complex, three-dimensional information over a large area and explain it to the uninitiated, like Stanford undergraduates. That ability clearly served him well in exploration too.

Steve might have remained at Chevron during his entire career. But in 1980, he was lured back to Stanford to train/inspire/motivate/explore with students in an academic environment. We would talk about legacy and career goals and Steve put it something like this: the papers you write… they are temporary. Ideas have a short shelf life. Science is about incrementally building toward understanding. The thing that lasts—the legacy of a career—is the people. That resonates as I'm sure it does for a lot of folks. Shoot, it inspired my career!

As I already noted, Steve mentored a lot of people in basic and applied research at Stanford. He explored new basins, like in Asia, and revisited his old stomping grounds in California with the latest data and technology to better understand controls on basin filling. He continued to develop new ideas about the tectonics of sedimentary basins with his students, including applications of detrital-zircon geochronology for provenance analysis and source-to-sink studies. My first publication was one of these: I was supervised by Kathy Surpless and Steve to date the base of the Great Valley Group, which made a bit of a splash (and annoyed a few people). Always an explorer, Steve ventured into remote territory of China to publish some of his most highly cited work on tectono-climatic controls on landscape evolution and basin filling; I think a handful of these papers are cited more than all my career publications! Working with Page Chamberlain at Stanford, Steve and students have used/are using stable isotopes to better understand the relationship between mountain building and climate. Steve also expanded his research breadth to marine geology. Collaborating with Bill Normark at the US Geological Survey and Charlie Paull at MBARI, Steve and his 21st century

students tackled challenges of modern sedimentary systems offshore California, from the characterization of architectural elements of deep-water depositional systems to refining the timing and controls on offshore sand delivery.

Steve served as director or co-director of a number of research programs at Stanford: he formed a pioneering Chinese geosciences industrial affiliates program, a basins/petroleum systems program, and the Stanford Program on Deep-Water Depositional Systems (SPODDS) with his colleague, Don Lowe. These programs were created as vehicles for educating graduate students, with their research as the primary deliverable to sponsors. I was part of the SPODDS research group during my graduate career. My bias is that the students who came through these programs, particularly SPODDS working with Steve and Don, are fantastic. These folks, their predecessors and successors, are getting into the prime of their career, and they are poised to flourish in the time of the energy transition. That's because Steve's (and Don's) mentorship/training is about more than how sedimentary geoscience is applicable to oil and gas exploration and production; it is about understanding processes of sedimentary systems and how they can be applied to myriad subsurface and sustainability challenges. This brings me back to how I started: indeed, Steve is a worthy recipient of honorary membership in the Association, and, although his individual achievements warrant that honor, his mentorship of so many students and colleagues will be the lasting achievement of his career. He's been a role model for me, and I think his career is a fantastic example for folks who work with students, managers/team leads of industry, and members of the Association.

Jacob Covault

TERRILYN OLSON
Honorary Member Award

Citation—For her exemplary service to the AAPG, advancements in pore-scale imaging, technical excellence in creating/editing publications, and collaboration bringing experts together.

The AAPG Honorary Membership Award is perfect recognition for Terri Olson's contributions to geoscience. I met Terri in 1997, when she was a geologist at Amoco in Denver. Three years later, along with Jane Estes-Jackson, we co-edited the Rocky Mountain Association of Geologists (RMAG) monthly newsletter, *The Outcrop*, becoming the "Three Amigas" and forging a long-lasting friendship. Terri's passion for petrophysics continually grew. When the unconventional shale-boom arrived in the early 2000s, she became an expert on the nanopores of shale rocks. That expertise led to a completely new niche in the petroleum world. It took her to places and friendships she likely never anticipated. A winding path, but one that was rooted in working in tight-gas reservoirs: the pores just got smaller. Concurrently, Terri's professional engagement moved into writing and editing technical publications: an unusual path for many geologists. Growing up with a mother who was an English teacher, she had an affinity for correct grammar, spelling, and punctuation. Terri also liked to write. She appreciated that an ability to combine those skills into editing was a talent not everyone had or enjoyed. Editing was a way to give back to the profession.

Terri is a Denver, Colorado native, but grew up moving between northern Virginia and southwestern Idaho. She started her undergraduate program at the University of Virginia. A love of the outdoors coupled with problem solving made her realize that she wanted to be a geology major. To that end she transferred to Colorado College where she received her first geology degree in 1980. She earned her master's at Dartmouth College in 1983, with a thesis on sedimentary tectonics of the Jalipur Sequence, Northwest Frontier Province, Pakistan. She began her career with Amoco in Denver in 1982.

Terri spent her 38-year career at oil and gas companies, large and small, focusing on unconventional reservoirs. Initially she worked as a geologist for Amoco in Denver, on exploration and development projects in California, New Mexico, Nevada, and Oklahoma. Attending the Amoco Petrophysics School at

Amoco Research in Tulsa in 1988-1989 was pivotal. Not only did she meet her future husband, it started her career-long immersion in petrophysics: the data-driven geologic subject matter that she thoroughly enjoyed. Petrophysical expertise led to an overseas assignment in Stavanger, Norway, where she worked on Valhall Field in the North Sea, ending with BP's acquisition of Amoco in 2000 and her return to Denver.

The next two decades were replete with industry mergers and acquisitions as well as booms and busts. Terri's work remained united by the theme of petrophysics in unconventional reservoirs with the added responsibility and pleasure of recruiting, training, and mentoring new employees and colleagues. With the rise of the shale-gas and oil revolution, she was hired as a petrophysical advisor for EOG Resources in 2008. This was a key period where she leveraged her experience and applied new technology in high-resolution imaging for characterization of mudstone reservoirs, transferring that technology across the company. Seven years later Terri joined FEI, a technology company performing digital rock services. In 2016 she formed her own company, Digital Rock Petrophysics, where she designed imaging projects and brought petrophysical insight to image data. Terri semi-retired from the petroleum industry in 2020, at the start of the COVID-19 pandemic. Terri quickly turned to her collaborative talents and many industry contacts to organize a highly acclaimed "Members in Transition" remote seminar series to assist unemployed geologists find new careers. That series was a bright light during a dismal time, for which she received a President's award from the RMAG.

Terri became very active in technical publications after publishing her first major paper on Hugoton Field reservoir characterization in the *AAPG Bulletin* in 1997. She was particularly adroit at editing special volumes, leveraging her collaborative talents, also known as "herding cats," to induce authors to write papers, find reviewers to help those authors, and write her own contributions. She served on the RMAG Publications Committee for more than 10 years, including committee chair, eventually serving as president of the RMAG in 2018. Terri was an associate editor of the *AAPG Bulletin* for 18 years, the senior associate editor for unconventionals for 3 years, and vice-chair and chair of the AAPG Publications Committee. Terri served on technical program committees for more than 10 ACE, IMAGE, and URTEC conferences, applying her mentorship experiences, networks, and expertise in unconventional petrophysics. She received Distinguished Service awards from the RMAG and AAPG and the Robert H. Dott Memorial Award for editorship of AAPG Memoir 112: *Imaging Unconventional Reservoir Pore Systems*. She is an Honorary Member of the RMAG and now, appropriately, the AAPG.

Donna Anderson

Response

I am grateful to my peers for the nomination, and to AAPG for awarding me Honorary Membership. It has been a privilege and (usually) a pleasure to contribute to our global society and to our science.

I joined AAPG in the early 1980s shortly after I joined Amoco in Denver. Amoco was supportive of professional society membership and efforts to advance the science and publish papers. This type of broad view is less prevalent among companies now, to the detriment of petroleum geoscience.

My involvement in my local societies, notably the Rocky Mountain Association of Geologists (RMAG) and the Denver Well Logging Society (DWLS), expanded my network of colleagues beyond the companies I worked for. Becoming active in AAPG expanded that network and broadened my horizons even more. The opportunity to write and edit technical papers, contribute to the RMAG newsletter, and edit RMAG guidebooks and a memoir helped me grow as a professional geoscientist. Serving on the boards of RMAG and DWLS and as chair of an AAPG committee provided platforms for developing leadership and communication skills that were useful in my career. We need our associations to continue to not only provide services to members but also to provide such networking and growth opportunities.

Working overseas and mentoring young geologists beyond the United States have given me a further appreciation of the role that professional societies can play in career development. While in Stavanger I was a member of the Norwegian Formation Evaluation Society, where I learned a lot about technology applications for the region and made new friends. It is

inspiring to see early and mid-career professionals leverage their participation in their regional societies as well as AAPG for professional growth and opportunities. Including young professionals in the design and execution of regional and international conferences is another way we can promote professional growth and idea exchange. Helping to organize conferences, especially on the themes I was passionate about, was useful both for networking and for learning new things in my focus areas.

I was excited to be part of the inaugural Unconventional Resources Technology conferences (URTeC). Working with other geologists and petrophysicists as well as engineers and geophysicists to build integrated conferences was very rewarding. Seeing the exchange of ideas and lightbulb moments across disciplines reinforced my belief that technical interaction between geoscientists, petrophysicists and engineers is a more enlightened and productive approach to exploration, problem solving, and production optimization than the siloed one we started with.

My husband, Christof Stork, is a research geophysicist. Our son, Devon, got his Ph.D. in biochemistry and is helping to start a nonprofit company in the realm of space biology. He says that both of his parents being research scientists was a significant part of the reason he became one himself. I didn't always consider my work to be research, but developing technology to characterize reservoirs and solve operational problems does fall in that arena.

Thank you to the AAPG community for all the opportunities and the friendships that were fostered by my involvement with you.

Terri Olson

ROBERT N. RYAN, JR.

Honorary Member Award

Citation—For his leadership and unwavering passion for geology, exploration, and AAPG that has ignited inspiration among generations of explorers.

Robert N. Ryan, Jr. (Bobby) is a highly accomplished leader in the energy industry with more than 43 years of experience. He is a proud graduate of Tulane University, a committed member of AAPG, a Chevron retiree after a 39-year career, and currently is an independent director on the Board of Directors of Murphy Oil Corporation.

I first met Bobby at a Chevron internal conference in 2005. He had given a keynote talk on exploration and having never worked in exploration at the time, I wanted to say hello. Turned out that his childhood home was down the block from my best friend. This initial conversation led to years of friendship and ultimately mentorship and describes Bobby for many; a man with endless interests and stories who can put you at ease and turn a chance encounter into a lifetime of connection. His passion for our business and for developing people knows no bounds and is evidenced by his continued engagement with AAPG, with his alma mater, Tulane University, and his legacy of exploration leadership at Chevron.

Bobby's interest in the energy industry began with fishing trips around platforms in the bays and offshore waters of Louisiana, where he was born and raised. As he cast his line, he wondered how people found oil and gas and how they decided where to put the platforms. During summers at Tulane, he worked as a deckhand on offshore supply boats, learning more about the jobs and logistics of the oil and gas industry leading to his interest in the business and a Bachelor of Science in geology in 1979. Bobby joined Texaco shortly after graduation as a geologist in the Offshore Division in New Orleans. He continued his education at Tulane on a part-time basis earning a Master of Science in geology.

Over the following 39 years of his career at Chevron, Bobby held a variety of technical and leadership positions ranging from wellsite geologist to Gulf of Mexico exploration manager to assistant to the chairman and chief executive office of Texaco to general manager-international exploration, culminating in 15 years as the vice president of global exploration where he was responsible for Chevron's multibillion-dollar worldwide exploration program. He was also a member of Chevron's Management Committee and Upstream Leadership Team.

Early in his career, Bobby had several interesting and impactful roles, including being selected to participate in the President's Commission on Executive Exchange in The White House. He was appointed to the Office of the Assistant Secretary for Energy Efficiency and Renewable Energy in the U. Department of Energy in Washington, DC, where he worked with electric utility policies and programs related to renewable energy and energy efficiency. This experience helped shaped his understanding and appreciation of a much bigger energy industry, something that he carries with him today.

Bobby had the opportunity to reinvigorate exploration programs twice in his career. The first in the early 1990s when he was charged with getting Texaco back into the deepwater Gulf of Mexico. His approach was to go to the experts, the explorers, give them the mandate, and have them design a successful program. Their plan resulted in a corporate award and better yet, numerous discoveries. In Bobby's words, "Give good people the tools, the support, and the flexibility, and success will follow." The second was at the Chevron-Texaco merger in 2001, where Bobby, as the Texaco lead for the Upstream Integration Team, played a key role in redesigning Chevron's exploration business, focusing on both functional excellence and business results. The team designed a program based on the technical merit of the opportunities while taking a portfolio view of the business and the rest was history, with global discoveries delivering assets that produce around the world today.

Bobby has also served in several industry leadership roles, including chairman of the Corporate Advisory Board of AAPG and vice chairman of the Board of Advisors for the Energy & Geoscience Institute at the University of Utah. He was a member of the School of Earth Sciences Advisory Board at Stanford University, and the Scientific Advisory Board of CASP affiliated with the Department of Earth Sciences at Cambridge University in the United Kingdom. Bobby is currently a member of the Board of Advisors for the School of Science and Engineering (SSE) at Tulane University and has been so for many years. The SSE recognized him with the Outstanding Alumnus Award in 2018. He was also recognized by AAPG with the Distinguished Service Award in 2017 and the Presidential Award for Exemplary Service in 2021. He received a Lifetime Achievement Award from Wood Mackenzie upon his retirement in 2018.

In 1979 Bobby joined AAPG as a student and that connection was his first link to professional development. Early in his career, management encouraged participation in professional societies, and he carried that message with him as his career progressed. He has been a frequent speaker at AAPG and energy conferences around the world. He drove Chevron's investment in AAPG, with Chevron being a leader in sponsorship of the annual conference and other meetings, funding student membership dues, and investment in student programs such as the Imperial Barrel Award. His focus was on students and career development. He joined AAPG's Corporate Advisory Committee in 2006 and was elected chairman in 2007. He led the development of a new charter and conversion of the committee to the Corporate Advisory Board, which plays a key advisory role for AAPG leadership. His interest in strategy development drove his work on numerous ad hoc committees related to AAPG's long-term strategy.

All the industry accomplishments aside, Bobby is first and foremost dedicated to his family and all who know him have heard his stories about his wonderful wife, Michele, his two children, Nevin and Mallory, and his six grandchildren.

I am proud to recognize Bobby's contributions to AAPG and the energy industry, as well as his leadership and dedication to professional development with the 2024 AAPG Honorary Member Award.

Elizabeth T. Schwarze

GREGG A. NORMAN

Norman H. Foster Outstanding Explorer Award

Citation—For a career of successful exploration and development of structural and stratigraphic traps along the Eastern Shelf in

Texas and the discovery of multiple new fields yielding multi-million-barrel oil recoveries from shallow vertical wells.

Gregg Norman has been an industry leader in not only Eastern Shelf new field discoveries, but also through his presidencies of North Texas Geological Society and Southwest Section AAPG. This dedication to his work and community has landed him the distinguished AAPG Norman H. Foster award.

Gregg grew up in northwest Texas in the town of Munday in the 1960s through the early 1980s. Having unlimited access to woods, creeks and the vastness of farmland and nearby rugged ranches, it was there where he and his friends could explore on their dirt bikes all things earth related. This translated into Gregg earning his B.S. degree in geology from Midwestern State University in Wichita Falls, Texas. Starting off as a geo-tech at Gunn Oil Company while working to earn his bachelor's degree in geology, Gregg was able to see firsthand how the petroleum industry worked. Gregg graduated in 1987 during the late 1980s oil downturn, but successfully secured a tech position at Gunn Oil for his first 2 years in the industry. Gregg was offered a move into an open geologist's role at Gunn Oil while working under the guidance of legendary wildcatter geologist, Robert D. "Bob" Gunn and his late son, Vince. When the job offer was extended to Gregg, he sought council from his petroleum geology professor, David Gee. Gregg's primary concern was the salary offer seemed a bit low. Gee quickly responded strongly and told him "To take the job and consider himself the luckiest person to ever walk out the door of this university. Now get out of my office!" (numerous expletives removed.)

While at Gunn Oil, Gregg's passion for the earth sciences took off due to the operational challenges and the lease obligations held on the Burnett 6666 Ranch in King County, Texas where R.D. Gunn had made and operated vast oil discoveries in the Tannehill, Strawn, and Bend Formations in 1969. Gunn Oil Company was in a unique situation where Pacific Enterprises was exiting the play in King County in the 1980s where Pacific Enterprises had driven daily production up to 30,000 barrels of oil a day on the King Platform. Gunn Oil was ready to take back over Pacific's exit because Gunn Oil had been the original operator and lease holder. These producing stratigraphic traps in King County resulted in enhanced oil recovery close to 1 billion barrels of oil in place. Both Gregg and Bob knew there were numerous extensions of these oil fields westward toward the Midland Basin, and Gregg was the right person to tackle this new stratigraphic challenge.

Developing and utilizing shelf margin understandings from the Bureau of Economic Geology under the research of L. Frank Brown, Gregg was able to develop actual returns to the company and to the State of Texas. Armed with a wealth of knowledge from databases and geologic understanding coupled with Bureau of Economic Geology research, Gregg was set and ready to drill for subtle stratigraphic traps.

With the utilization of affordable computer workstations and geologic software becoming readily available to the masses in the late 1980s and 1990s, Gregg was able to couple not only his knowledge of the 6666 Ranch learnings westward, but he was also able to link seismic interpretation into his workflows. Using large datasets and building out a true exploration program using both proprietarily two-dimensional and three-dimensional seismic data, Gregg made another discovery in 2001 in Dickens County chasing the Tannehill sands named Soldier Mound field. Just like the previous work on the 6666 Ranch, the Eastern Shelf provided multiple serendipitous producing formations that were currently not mapped or clearly understood, but created further stratigraphic opportunities on the Eastern Shelf. Soldier Mound in Dickens County, Texas, was to be Gregg's first significant turning point in his career where this discovery resulted in more than 6.5 million barrels of produced oil; 4.5 MMBO has been produced from the Tannehill sandstone; and 2 MMBO yielded from the slightly shallower Stockwether Limestone where operators previously considered this formation to be a nonproductive marker. Gregg also found several other smaller fields across the county ranging from 0.5-1.0 MMBO.

At about the same time as the Dickens County campaign was ramping up, Gunn Oil became co-owner of an international exploration company called Globex that focused on the offshore Northwest Shelf of Australia and West Central Africa (Equatorial Guinea). While Gregg did not actively explore these areas hands-on, he and a longtime friend and fellow geologist

William C. "Bill" Stephens reviewed and evaluated projects and provided recommendations to the Globex board. It was an incredible experience to be exposed to truly large global exploration programs with all the new technology and concepts coming online at the time.

While at Gunn Oil, the geologist had control and direction of their own projects. The geologist took their ideas and prospects to the company with the understanding this was an exploration program first. If the well struck, the geologist had a development project, while all along ready to explore to extend their ideas across their play. Fostering true philosophy of creativity at the company, the geologist was not only a practicing geologist, but it was recommended that each geologist develop their own career path with a specialty or niche in the industry to apply to their projects for enhancement. Gregg initiated and started typing the oils from subsurface geochemistry studies to map migration paths and to forensically tie these learnings back into his years of experience of exploration. He realized the Eastern Shelf was the perfect place to apply these petroleum system concepts. Gregg was fortunate to work with Dan Jarvie on these geochemical studies and projects.

Armed with this wealth of knowledge and the onset of unconventionals underway across the United States in the 2000s, Gregg mapped the highly resistive and high API gamma Canyon and Cisco shales across the eastern Midland Basin up onto the Eastern Shelf. This was a valid attempt to get out in front of the industry to take the company in a new direction by partnering with major independents to drill laterals in the Cline Shale. Ultimately, the Cline shale formation didn't provide the commerciality or the reserve potential the larger independent majors had hoped for but left Gunn Oil in a prime opportunity for more vertical oil discoveries because Gregg was fully aware of the stratigraphic section's potential and forgiving Eastern Shelf.

With deep tests available on the Eastern Shelf drilled by the exiting major independents, Gregg used his knowledge of stratigraphy and shot additional proprietary three-dimensional seismic data to develop more vertical Cisco, Strawn and Ellenburger plays in Fisher County, Texas. These applied concepts led to numerous multi-million-barrel oil field extensions on the Eastern Shelf within Fisher.

The year 2015, presented a new set of challenges for Gregg's career. With Gregg being one of the cornerstone geologists at Gunn Oil and holding his professional position since the 1980s, another industry downturn in 2014 caught the technical staff, and he was laid off from Gunn Oil due to the extreme fall in oil and gas strip prices. However, knowing Gregg was not about to back down from a challenge and stepping up to this new career direction, he created a new venture with his lifelong friend and work associate, petroleum engineer Jimmy Browning, to form Norman Browning Exploration, NBX Energy. Armed to the teeth with a full career of advanced knowledge of oil and gas, stratigraphy and the comfort of knowing the Eastern Shelf, Gregg and Jimmy built out an exploration package on the Swenson Flat Top Ranch in Haskell, Jones, and Stonewall Counties in Texas. After securing partners, shooting 65 sq mi of proprietary three-dimensional across a contiguous ranch owned by one family, and after three dry holes drilled with partners ready to cancel the next wildcat, NBX drilled the first successful discovery wildcat on the last well in the drill program to the Strawn resulting in the largest new field Strawn discovery on the Eastern Shelf in 50 years. There have been 3 million barrels of oil produced to date since 2017 with more than 50 oil wells drilled in the Flat Top JC (Strawn, Upper) field. Reservoir properties are close to 18 million barrels in place with ultimate oil recovery factors more than 40%.

Gregg is a geologist's geologist. He always carries tenacity, gumption, and the drive because the oil and gas exploration mentality, or as we call it "the hunt" lives within him. Not only is Gregg a great geologist and a spectacular associate to talk geology, the geologists at AAPG are honored to present Gregg A. Norman the esteemed AAPG Norman H. Foster Outstanding Explorer award. He is a good person and friend we can all count on through his scientific methods to be successful because we know Gregg will have another wildcat discovery waiting around the corner through his efforts on forensic exploration.

Nic Brissette

PETER B. FLEMINGS

Robert R. Berg Outstanding Research Award

Citation—To Peter B. Flemings for his transformative work linking stratigraphic evolution with fluid flow, to predict subsurface pressures, trap integrity, fluid venting, and slope stability.

Peter's foundation in working at the interface between the fundamental and practical began with his undergraduate thesis at Dartmouth College, where he studied manganese carbonate deposits. In his ensuing master's and doctoral work at Cornell University, a hallmark of Peter's research footprint began to emerge—that of tackling integrative science questions using a multipronged, quantitative, and rigorous approach to dissect underlying processes. In his Ph.D., he developed a model for sedimentary basin evolution, which simultaneously addressed mountain erosion, basin filling, and deciphering how stratigraphy records this behavior. His seminal publication on synthetic stratigraphy of foreland basins is one of the first efforts to quantitatively couple tectonics and stratigraphy, and spurred decades of subsequent work.

After graduating from Cornell in 1990, Peter turned his attention to another fundamental problem: the interaction of fluid flow and stratigraphic evolution. His initial work on this topic—an analysis of the Eugene Island 330 field—earned Peter and Laurel Alexander AAPG's J. C. "Cam" Sproule Award. Peter then joined the faculty of Pennsylvania State University in 1993, where as a Shell Faculty Fellow, he and his students used industry data to develop models of sedimentary basin evolution and associated flow. He also launched the industry-funded Penn State GeoSystems Initiative, a novel graduate program that linked geoscience and engineering to train students in team-oriented, integrative problem-solving, using real-world data sets. This innovative initiative earned Peter the Penn State College of Earth & Mineral Sciences' Wilson Teaching Award.

Flemings continued to deepen his roots in the study of coupled sedimentation, deformation, and fluid flow, through the creation of "GeoFluids," an industry-supported program that is now 25 years old and going strong. He also began a longstanding presence in academic scientific ocean drilling through the Ocean Drilling Program. Peter's work in these arenas focused on the role of laterally continuous permeable reservoirs within geopressured strata, leading to a description of the "centroid effect" (a.k.a. "lateral pressure transfer" or "flow-focusing"). This demonstrated another enduring characteristic of Flemings's research, in bringing engineering principles to inform rigorous approaches to geological problems.

Quantification of the centroid effect illuminated pathways for prediction of both hydrocarbon traps and potential submarine slope failures. Soon thereafter, Flemings was invited as a co-chief scientist on IODP Drilling Leg 308, which successfully tested the slope failure model in the Ursa Basin. He then used similar principles to develop the concept of "protected traps." This model, widely used today in exploration, was also the basis for his AAPG Lecture tour. A subsequent sabbatical in Massachusetts Institute of Technology's Department of Civil and Environmental Engineering was formative in advancing Peter's understanding of soil behavior and experimental techniques, and opened the door to increasingly sophisticated approaches to fluid pressure and deformation in complex environments, while cementing his lifelong tie to engineering-based approaches.

Flemings's deep expertise later came to the fore with his service to the US Secretary of Energy's Macondo Well Integrity Team. Following the 2010 *Deepwater Horizon* blowout, the team provided guidance on steps to control the well. He and student Will Pinkston later published a paper rigorously documenting the pressure and stress conditions that contributed to the well failure. Today, Peter's innovative contributions in geopressure are described in his text, *A Concise Guide to Geopressure*.

Peter's study of geopressure led him to methane hydrates, where he is again driving innovation

through the marriage of the geological, experimental, and engineering. The application of quantitative approaches to understand the dynamic interplay of thermodynamics, chemistry, and flow laid the foundation for his leadership of a major Department of Energy-sponsored effort to study hydrates in the deepwater Gulf of Mexico. This effort links seven universities, the US Geological Survey, and Bureau of Ocean Energy Management and industry contractors. In 2017 and in 2024, Peter led expeditions to drill, core, and recover hydrates under pressure. His group's laboratory work on these samples is now providing new insight into the permeability and geomechanical behavior of hydrate systems, as captured in two dedicated *AAPG Bulletin* volumes (v 104, no. 9; v. 106, no. 5).

Above all, Peter works alongside and just as hard, if not harder, than the students and postdocs he so effectively mentors—and is not afraid to try something new. When I see him today, he is coring permafrost in the Arctic to study greenhouse gas venting, and bridging the energy transition with a new undergraduate course on Climate and Energy. The next decade will be fun to watch.

Demian M. Saffer

Response

I am honored to follow Robert R. Berg's footsteps: a scientist grounded in sedimentary geology who linked engineering principals and process understanding to geological insights. His work on capillary trapping has inspired me for decades.

My path was a lucky one. Teresa Jordan, my graduate advisor at Cornell, was an early pioneer linking quantitative methods of basin analysis with stratigraphy. Her insightful guidance and patient mentoring, provided an environment where I could dig deep, make mistakes, and try again. Cornell itself was a multi-disciplinary stew linking engineering, geophysics, computer modeling, and geology: I loved it. I mapped the stratigraphy of Laramide deposits, built numerical models of how basins formed, and explored the Andes.

I left graduate school intrigued by how stratigraphy and fluid flow interact. Roger Anderson at Lamont-Doherty Earth Observatory took me in and exposed me to drilling wells, measuring pressure and stress, and the extraordinary ways we image basins with logs and seismic data. John Austin taught me how to interpret and color a log while sitting on the Eugene Island 330 platform in the Gulf of Mexico.

Penn State was a wonderful environment for a young professor. Mike Arthur showed me how my work coupled to the Ocean Drilling Program and I continue to work in this interdisciplinary community. Richard Alley provided guidance and insight as I ventured in new directions. One new direction was petroleum engineering: Turgay Ertekin and Paul Hicks began my journey in multi-phase flow. I joined the MIT GeoTechnics group for sabbatical. A lifetime collaboration with Jack Germaine has resulted.

I moved to The University of Texas at Austin in 2007. The Institute for Geophysics at the Jackson School of Geosciences and all of UT Austin provided a collaborative setting that gets things done. UT Austin is the only academic deep-water operator in the Gulf of Mexico! I have again found a home between petroleum engineering and geoscience: David DiCarlo, Nicolas Espinosa, Hugh Daigle and Larry Lake teach me every day. The arrival of Demian Saffer to UT brings a new and exciting push into geomechanics.

I am particularly proud and thankful for the extraordinary collaboration I have had with industry. In every interaction, a "champion" took the time, above and beyond their day job, to support our academic efforts. In the earliest days, Shell provided extraordinary reservoir data sets from the Gulf of Mexico. These data sets formed the foundation of our work in geopressure. In 2000, I began the GeoFluids Consortium, an industry sponsored effort to understand pressure and stress in sedimentary basins. My industry colleagues have patiently taught our group, provided data to further our efforts, and been outspoken in their ideas.

Finally, and above all, it has been a joy and honor to work with students and young scientists. Their creative minds forged our new and exciting research directions. I thank them for the long days and nights spent in the field, the lab, and on the computer. I am so proud to see your successes today.

Peter Flemings

G. MICHAEL GRAMMER

Robert R. Berg Outstanding Research Award

Citation—To G. Michael Grammer for his innovative and outstanding research of fundamental processes in sedimentology and diagenesis of modern and ancient carbonate systems.

G. Michael Grammer is a Regents Professor and holds the Chesapeake Energy Endowed Chair of Petroleum Geology at Oklahoma State University. He received this distinguished position because of his relentless pursuit of excellence in solving scientific questions. His innovative approach of integrating modern and ancient carbonate systems has advanced our knowledge about the processes on steep carbonate slopes, how fast carbonate sediment is lithified into rocks, and high-resolution sequence stratigraphy in carbonates. His scientific advances have made major impacts in academia and industry.

Mike was born into a military family that relocated many times during his early years but later settled long enough in Tampa where he received a bachelor's degree in geology from the University of South Florida studying modern coastal environments with Richard A. Davis. Mike was introduced to carbonates during his master's degree at Southern Methodist University in Dallas with Robert L. Laury where he worked on Ordovician rocks for his first real foray into the value of understanding both modern and ancient depositional systems.

Subsequently, he joined Texaco in Denver as a sedimentologist. Five years later he left industry and joined the University of Miami's Rosenstiel School of Marine and Atmospheric Science, to pursue a Ph.D. under the guidance of Robert N. Ginsburg at the Comparative Sedimentology Laboratory. The data for his dissertation project on modern carbonate slopes in the Bahamas were collected exclusively with a rather primitive submersible. In course of this underwater research, Mike became an expert in collecting rock samples with explosives. Innovative and unique designs of research projects would remain Mike's trademark. As a postdoc and soon research assistant professor in Miami he performed the first open ocean experiment to quantitatively assess the growth rates of carbonate cements, using again a submersible to place samples at different water depths. At the same time, he conducted fieldwork in the ancient, unraveling the intricate mixture of carbonates and siliciclastics on the Paradox shelf in Utah. In this project he started to refine the methodology of high-resolution sequence stratigraphy to capture facies heterogeneity in the strata and outlined how to carry this analysis into subsurface data sets.

He co-edited the award winning AAPG Memoir 80 that highlights how the modern environment and processes can teach us lessons for the interpretation of ancient deposits. His summary article is to this day the best cited paper of this volume. His former colleagues at Texaco, convinced Mike to join them again to provide his expertise in integrated sedimentology and stratigraphy and three-dimensional modeling of carbonate systems, primarily on supergiant fields in Kazakhstan.

Research and teaching, however, pulled him 5 years later back to academia. He became faculty at Western Michigan University where he applied the sequence stratigraphic methodology to strata in the Michigan Basin. Together with his students he constructed the first high resolution sequence stratigraphic framework for Silurian aged (Niagaran) reefs, which served as input to three-dimensional geocellular models of these important buildups. His group also unraveled how stratigraphic architecture played a major role in how hydrothermal fluids dolomitized the Ordovician Trenton and Black River Formations. A recent Geological Society of America Special Paper,

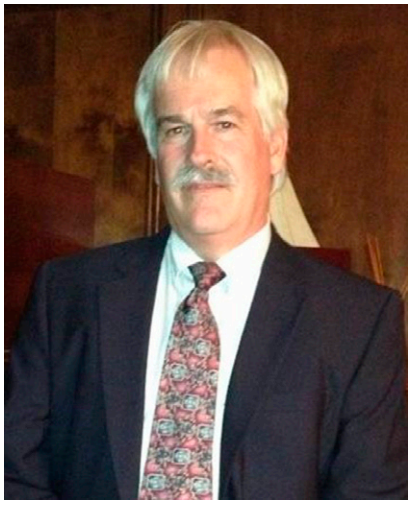
with Michael Grammer as the lead editor, summarizes this important work in the Michigan Basin.

In 2012, Mike Grammer was awarded the Chesapeake Energy Endowed Chair of Petroleum Geology at Oklahoma State University. In Oklahoma, he expanded the research approach with laboratory experiments. He started to investigate the role of microbes on the cementation processes and stabilization of carbonate slopes, using highest-resolution imaging techniques and laboratory measurements of various physical properties of the rock and moved into studying unconventional reservoirs. This continuing adjustment of techniques and approaches has kept Mike on the forefront of research throughout his career.

Mike Grammer is a fabulous researcher but also an outstanding teacher and mentor, actually he is one of his kind. He brings his students farther than they thought they could go. The best testament for his accomplishment in education and his mentoring is the Grover E. Murray Memorial Distinguished Educator Award he received in 2019. He was nominated by his thankful students.

In summary, with his originality in research and his profound knowledge of the modern environments, the ancient rock record and subsurface data sets Mike Grammer has established himself as the leading scientist in carbonate sedimentology, stratigraphy and diagenesis. Thus, I cannot think of anyone more deserving to receive the Robert R. Berg Outstanding Research Award than G. Michael Grammer.

Gregor Eberli



JOEL A. ALBERTS

Distinguished Service Award

Citation—To Joel A. Alberts a geologists' geologist. Great leader, teacher, and mentor. Always willing to share his knowledge on geology, business, and how to network.

Joel Alberts is a petroleum geologist residing in Edmond, Oklahoma. He is self-employed and owns Antero Energy & Minerals LLC with active projects in several states. Joel is a 1980 graduate from the School of Geology at the University of Kansas and has been active in the petroleum business for more than 40 years. Currently, he is involved in exploration for oil, gas and rare-earth elements in numerous play types including both unconventional resource plays as well as conventional projects. Professional experiences consist of exploration, exploitation, operations including geosteering and acquisitions/divestitures with both public and private companies. He is a Certified Petroleum Geologist and is licensed in both Texas and Kansas.

After obtaining a geology degree with a business minor from the University of Kansas in 1980, Joel started his career in "Jayhawk Country," prospecting for a wildcatter, Red Tiger Drilling's owner George Angle. George Angle was a pioneer in finding and processing Helium! They prospected all over Kansas and northwestern Oklahoma. Since the company was small, he learned many skills that gave him good perspective of how to get things done in the oil patch. For example, he performed geological wellsite duties, logged wells, ran numerous drill stem tests, dressed tools on a cable tool rig on occasion, and even became a pretty good welder, climbing the derrick to do repairs. Joel states that this experience was a gold mine for his training and future career, providing him with overall knowledge of the oil and gas business and its unique culture.

In 1996, Joel came to Oklahoma to work for Chesapeake Energy Corporation. He developed projects in the expanding Austin Chalk play in Texas and Louisiana leading to his early experience in horizontal drilling for fractured rock. In 1999 Joel joined Devon Energy Production Company to assist in acquisitions and exploitation. He conducted a geological field study of the Newark East field Barnett shale. He evaluated 200 locations in Barnett shale, working with team to technically justify more than 350 new wells. Next, he conducted digital data integration, prospect review and mineral evaluation of more than 500,000 gross acres after Devon's Santa-Fe-Snyder acquisition. Later he evaluated producing properties in East Texas and North Louisiana following the Pennzoil acquisition, and managed numerous exploration and exploitation drilling and workover projects.

In 2003 Joel decided to work for small independent and became the senior exploration geologist for Alpine, Inc. d.b.a., K2X Energy. He developed resource prospects in Delaware Basin, west Texas, and drilled multiple exploratory tests. He also supervised and integrated the geochemical analysis of new sample data into a multidisciplinary team evaluation and interpretation. In 2007 Joel became chief geologist for H. Huffman & Co. in Oklahoma City. He generated and developed new ventures including unconventional resource plays and conventional prospects. This included reviewing and recommending outside opportunities from industry partners incorporating technical and economic evaluation. Joel was often the company representative with operators during drilling, logging, coring and drill stem testing. He also advised on completion procedures.

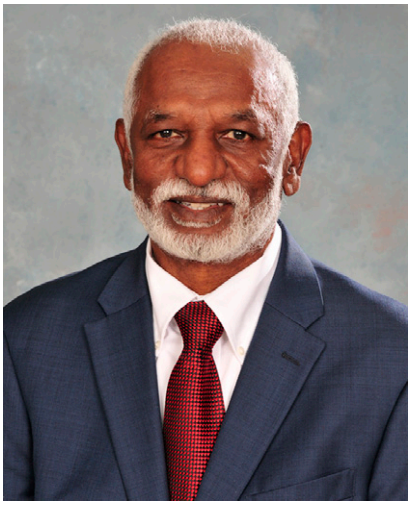
Professional activities for Joel include the AAPG Advisory Committee, former councilor for DPA of AAPG, board member Geology Associates Advisory Board-University of Kansas, board member of Oklahoma Geological Foundation, chair of OCGS Field Trip Committee, S.I.P.E.S. member and several other committee positions. Joel has also served in a variety of positions in the Oklahoma City Geological Society and is a frequent contributor to the Shale Shaker and other Journals.

Joel has been an active Joel supporter of the Mid-Continent Geological Library (MCGL) now located in Edmond, OK. When he was getting started, log library access to data subscriptions, availability of geological programs such as PETRA or Geographix, and scanning and plotting equipment was invaluable to him. He found that library membership can reduce expenditures for the small company, especially considering the cost of data subscriptions. Even though he can use PETRA and Geographix at his office, he still uses the MCGL's resources frequently, especially the logs and detailed scout tickets.

Field trips are one of Joels favorite society events - because they bring together professionals of different ages from different companies and with different specialties in an environment that encourages "passing on the culture". He loves the fact that there are great stories told and lessons learned at outcrops.

Joel has the qualities of a great teacher and motivator—always willing to share his knowledge on geology, business and how to network.

Rick Fritz



ABDEL FATTAH M. BAKHIET
Distinguished Service Award

Citation—To Abdel Fattah Bakhiet, for decades of dedication, leadership, invaluable contributions to energy geosciences, and unique, collaborative efforts that inspire countless geoscientists globally.

Abdel Fattah Bakhiet chose to study geoscience based on a recommendation from an economist friend who explained the importance of energy in the economy and its impact on humanity. He soon discovered that he is driven to explore and foresaw a promising career with geosciences filled with exciting global voyages. Abdel Fattah earned his B.Sc. with Honors in geology from the University of Khartoum in 1982. He obtained his M.Sc. in petroleum geology from the Imperial College London in 1986. He also attended a one-year program in geophysics at the Colorado School of Mines during 1990-1991.

Abdel Fattah started his career with Chevron Sudan as an exploration geophysicist in 1982. Since then, his journey has been shaped by impactful experiences with renowned international supermajors like Chevron, Petronas, and Saudi Aramco, which enabled him to work in global exploration for hydrocarbons.

From 1982 to 1997, Abdel Fattah actively explored the interior rift basins of Sudan, Chad, offshore Nigeria, Angola, and Brazil. He also worked on projects in the North Sea, Colombia, Venezuela, the Northwest Shelf of Australia, Kazakhstan, and Azerbaijan. In 1997, he joined Petronas as an exploration section head in Canada and then transitioned to Malaysia. With Petronas, he was responsible for exploration technical evaluations in Africa, where he evaluated exploration acreages in Nigeria and Cameroon. He next worked briefly

as a geophysical advisor at Fugro-Jason, where he was involved in seismic-inversion driven reservoir characterization of oil and gas fields in the United Arab Emirates.

Abdel Fattah's last job was with Saudi Aramco (2002-2020), where he played a pivotal role in the exploration of the Eastern Province of Saudi Arabia. Leader of several teams, he focused on play-based exploration fairway mapping, exploration concept generation, prospect generation, recruitment, and talent development. Among his team's key accomplishments was pioneering application of seismic chronostratigraphy concepts to search for stratigraphic traps. This work led to the identification of potential stratigraphic traps and laid the foundation for the discovery of unconventional hydrocarbon resources. This work exemplifies that Abdel Fattah's greatest satisfaction comes from revealing the big picture and then diving into the subregional and prospect level targets.

Transferring knowledge to fellow geoscientists is in Abdel Fattah's DNA. He has worked tirelessly to disseminate and preserve technical knowledge by organizing and chairing numerous knowledge-sharing sessions and workshops. A key contribution was co-chairing the first AAPG GTW on "Stratigraphic Traps of the Middle East" in 2014 in Muscat, which illuminated the exploration potential for stratigraphic traps in the Middle East.

Abdel Fattah is a distinguished leader with profound technical knowledge and compassionate engagement with colleagues. He creates inclusive and positive environments where every individual's opinion is respected so that their expertise is maximized.

M. I. Faqira, the former Eastern Area exploration manager at Saudi Aramco, affirms that Abdel Fattah is a one-of-a-kind petroleum geologist whose technical leadership, dedication, and effective teamwork skills made him a trusted advisor to many young professionals. Faqira noted that Abdel Fattah's strong technical knowledge honed through experience and outstanding non-technical skills made him invaluable and a role model for his colleagues.

Abdel Fattah is a strong believer in the role of professional societies in technical development, networking, and supporting the geoscience community. He has been an active member of AAPG and SEG since 1986 and a life member of the San Francisco Bay Area Geophysical Society. He has been a strong supporter of the AAPG Imperial Barrel Award (IBA) Program and implemented a modified version of it as part of Aramco's exploration training program for young hires. Since his retirement in 2020, Abdel Fattah has actively volunteered as judging coordinator for the IBA. Abdel Fattah also serves on the technical committees for the Houston Geological Society and Geoscience Energy Society of Great Britain's "Africa Exploration conference" in 2022 and 2024.

Abdel Fattah has remained enthusiastic and passionate about exploration and hydrocarbon geosciences for over four decades. His interest in people's development inspires many because he has impacted a multitude of geoscientists who also have become industry leaders in many corners of the world.

Abdel Fattah resides with his wife, two sons, and two daughters in Sugar Land, Texas. In his spare time, he enjoys watching science documentaries, the NBA, the NFL, and soccer games.

For his significant career accomplishment and contributions, Abdel Fattah is truly a distinguished leader who has dedicated years of service to exploration geosciences and AAPG, and we are all richer for his efforts.

David Z. Tang and Hala A. Alwagdani

KARL BLOOR
Distinguished Service Award

Citation—To Karl Bloor for his unwavering dedication to and support of, students and student educational programs developing the next generation of geoscientists.

Karl Bloor, a devoted husband and father to his wife, Andrea, and children, Andrew and Karli, an inspirational leader and geologist.

Karl's love of his family set him on a course that has allowed him to contribute to some of Chevron's biggest successes.

His story begins when he arrived in the United States from New Zealand with his family while in junior high school. Growing up on the west coast he worked in construction with his dad, which led to his favorite hobby and his career. While remodeling a home on a cliff overlooking Beacon's Beach in Ecinitas, Karl shored up the staircase leading to the beach. The homeowner, a retired cardiologist, allowed him to borrow boards stored under the stairs to learn to surf, which has manifested into a lifelong passion and in Karl's own words "what a dream." What Karl may not have realized at the time was that this act of giving back by a retired cardiologist would impact him in other ways as well.

After years of working construction, Karl knew he wanted to build a career that allowed him to retire, not expire. As his passion for surfing suggests, he loved the idea of being outdoors and an elective geology course at community college solidified his career path after they visited many of the western United States' geologic wonders, even though he had no idea what it would entail. Karl would later pick up the interest and then passion for petroleum geology from Eugene "Kip" Hering and Rob Mellors, and their graduate students that all participated in AAPG events and IBA.

Karl's career as a geologist was nearly predetermined as his grandfather was a roughneck that drilled the first geothermal exploration wells in the Wairakei Field in New Zealand. This connection pushed him to pursue a geothermal focused undergraduate thesis, "Indications of a Geothermal Resource near Santa Fe, New Mexico." UnFortunately (or fortunately), his master's geothermal project fell through and in his search for a replacement he read an *AAPG Explorer* article discussing Henry Posamentier's work on seismic geomorphology. After corresponding with Posamentier, Karl quickly had a new master's project, "Seismic Geomorphology of the Miocene Carbonate Platform, Browse Basin, NW Australia." For providing the data to complete that project, Karl is forever grateful to Posamentier and Chevron, but it is the opportunity that left an indelible mark on Karl.

Karl's career at Chevron began in 2012 as an intern in Midland where he focused on operations and production in the Permian Basin. Early in his operational career Karl planned and drilled deep water exploration wells in the Gulf of Mexico. His career as an exploration geologist began in 2017 where he focused on near-field tie-back projects. He was the lead exploration geologist for the Esox-1 discovery well in 2019. In 2020, Karl became the lead development geologist for multiple development areas in the Delaware Basin and is now a senior development geologist in the San Joaquin Valley Business Unit.

Throughout Karl's successful geology career he has championed lessons learned from a retired cardiologist, Henry Posamentier and Chevron that giving back to the next generation can make a major impact on their future. Karl has mentored newly hired geoscientists at Chevron, even participating in the Emerging Leaders Program at Chevron, which takes a nomination. Outside of Chevron, Karl has been a presence in the AAPG's Imperial Barrel Award Program since 2017. He participated in the program as a graduate student in 2012 but returned as a volunteer in 2017 to lead the education subcommittee. Becoming the committee's co-chair from 2018-2021. Once his term as co-chair ended, he took over the coordinating the data set release for the program. Since he joined the IBA program as a volunteer, 3820 students have participated in the IBA, many of whom have begun successful careers in the oil and gas sector. Karl's influence on the industry is unquestionable, just as his service is distinguished.

Jensen Angelloz

ROB DIEDRICH

Distinguished Service Award

Citation—To Rob Diedrich, for long-term selfless service to AAPG and its Affiliated Societies.

Rob Diedrich received his B.S. in geology from SUNY Oneonta, New York in 1979 and his M.S. in geology from Bowling Green State University in 1981. He worked for Marathon Oil Co., from 1981-1996 (Tyler, Texas; Houston, Texas; Casper, Wyoming). He then joined North American Resources Co, in 1996 (Billings, Montana). Rob became a consultant from 2000–2002 and then joined SM Energy (aka St. Mary Land & Exploration and Nance Petroleum; in Billings, Montana). Rob became exploration manager and later moved to Denver, Colorado, as vice president - resources in 2015. He semiretired in 2020 and remains active in the geological community.

He is an active member of the Wyoming Geological Association, Montana Geological Society, Rocky Mountain Association of Geologists, Rocky Mountain Section-AAPG and AAPG. He has held leadership positions in all the societies he has been involved with (second vice president, WGA; president/secretary/treasurer MGS; president/secretary/treasurer RMS-AAPG; counselor, president-elect, and president of RMAG). Since 2007 he has been president and director of the RMS-AAPG Foundation. Rob served in the AAPG House of Delegates from 2010-2015 and was on several committees. Rob remains active on RMAG committees and conferences.

Rob took an interest in geology at a young age, collecting red granitic rocks from the plowed farm fields of his western New York State hometown, rocks that he later discovered were from Canada and transported southward by glaciers. This initiated a love for field geology that Rob still has today, as he coordinates field trips for RMAG to some of Colorado's most beautiful and geologically significant sites. He also leads "urban" geology field trips in Denver's Downtown and Capitol Hill districts, examining the building stone used in construction of the city's oldest and most historic buildings.

Rob describes his long-term involvement with geoscience societies, being one of the most rewarding aspects of his career.

Stephen A. Sonnenberg

ROBERT FRYKLUND
Distinguished Service Award

Citation—For his dedication to AAPG and the industry, including service on multiple leadership committees and thought leadership in exploration and petroleum geology, notably and most recently his development of the concept of "Super Basins," along with Pete Stark, Ph.D.

In 1979, Robert "Bob" Fryklund took a summer intern job as an associate development geologist with Texas Pacific in Oklahoma. During the summer, Bob drilled his first well in the Criner Hills, which became a producer. Bob was hooked.

In the summer of 1980, Bob joined Amerada Hess in Tulsa, Oklahoma, as an associate geologist in the mid-continent group. During the next 9 years, Bob learned operations, development geology, and frontier exploration.

He also learned about petroleum systems from Alaska's North Slope, the Eastern Appalachian overthrust, the McKenzie Delta, the offshore deepwater GOM, and many other basins. During that time, Bob began his contributions to the industry, writing the AAPG Mid-Continent Oil and Gas activity report.

In 1989, Bob left Amerada Hess, which had morphed into Hess, joining Union Texas to work as an international geologist. During that time, Bob covered principally Latin America and Papua New Guinea.

In 1999, Union Texas was bought by ARCO. Bob moved on to British Borneo where he worked in Brazil and the South Atlantic. Another acquisition saw Bob moving to another company–Phillips Petroleum. While at Phillips and later ConocoPhillips, Bob led the company's operations in Brazil and Libya.

In 2006, Bob joined IHS Energy (which later became IHS Markit and now is S&P Global Commodity Insights) as vice president of industry relations, and he continues with the company as chief upstream strategist.

During Bob's E&P operating career, he was involved in discoveries from the North Slope, Deepwater

Gulf, Brazil, Bolivia, and the Mid-continent. In total, his teams' discoveries delivered some 3 billion barrels equivalent.

Since becoming a member in 1980 and throughout his career, Bob has been actively engaged in AAPG. He has served on multiple committees including the Corporate Advisory Board, IMAGE Leadership Committee, and more. He is a member of the AAPG Foundation trustee associates and a former member of the American Geologic Institute trustees.

Bob has given more than 100 talks and has been on numerous executive panels at AAPG events around the world. He also co--founded the "super basins concept" with his lifelong friend–Phillip "Pete" Stark. Pete and Bob, together with Charles Sternbach, later developed the Super Basins forums and Pete and Bob published the keystone paper on super basins.

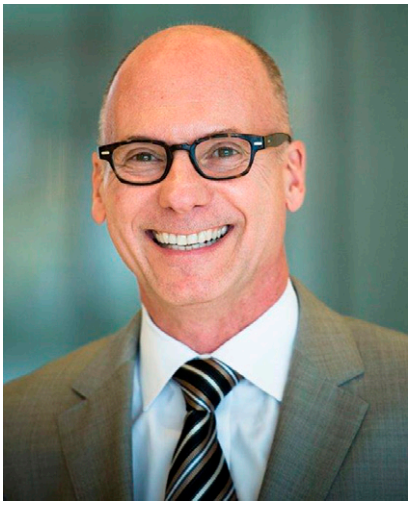
Bob received the 2018 AAPG Presidents Award for his "thought leadership."

Bob regularly speaks at SPE, CERAWeek, WPC, World Economic Forum and is a frequent media source, including for the *AAPG Explorer*.

In addition to giving back to the industry via his participation in AAPG committees and meetings, Bob also tutors young female leaders and talks frequently on college campuses. He is an avid outdoorsman enjoying skiing, white kayaking, scuba diving, hiking and biking.

His wife, Louise, has helped provide balance and support throughout his career.

Melissa Manning



WILLIAM MALONEY
Distinguished Service Award

Citation—For exemplary leadership in the global petroleum industry, for inspiring others, and for his dedication to AAPG and the entire geoscience community.

William Maloney (Bill to all his friends and colleagues) was born and brought up in the Bronx, New York. His dad worked for the NYPD, rising over 35 years from patrolman to homicide detective. Bill has never quite left his Bronx roots behind despite a globetrotting career, as evidenced by the delightful accent much loved by his European friends. Bill's first ambition was to make a career in music—more about that later–but encouraged by his soon-to-be wife Audrey, he decided he needed another string to his bow and completed his education at Hunter College and Syracuse University.

Graduating with a masters in 1981, Bill assumed that his career would follow his M.S. direction and be in hydrogeology–but then the petroleum industry came calling, with some compelling arguments as to why Bill should apply his newfound skills to oil and gas exploration. Moving to Houston for his first job with Shell, Bill came under the mentorship of Jim Clement, manager of geology for the Rocky Mountain Division. Jim's management style was all about bringing out the best in people; encouraging them to think, question and discover themselves as an explorer. He made a profound impression on Bill, who has employed and lived by those principles throughout his career.

Bill rose rapidly through the Shell ranks, graduating from team leader Rocky Mountain Division to international management, with responsibility for China, Cameroon, and Latin America. Leaving Shell in 1995, he did a brief stint with the independent Davis Oil Corporation, tasked with founding an international E&P division, before joining Texaco in 1997, first as business unit leader FSU and ME, then as vice president exploration and new ventures, based in London (1998–2001). With a global remit, Bill's teams led Texaco to major discoveries, cementing their leading position on the world exploration stage.

During the radical reshaping that followed the Chevron-Texaco merger, Bill was recruited by Statoil (now Equinor) in 2002 to start a new Global Exploration Division (GEX). Under Bill's guidance, which included a constant and sometimes punishing commute between offices in London, Stavanger and Oslo, Equinor entered deepwater Gulf of Mexico, Tanzania, and Brazil among other new play entries, drilled 30 or more wells annually, and developed from a minor

international presence to a top-quartile player. During this time, he also successfully merged two large exploration organizations in the merger with Norsk Hydro.

Bill's final role with Equinor was as EVP for development and production, North America, where between 2011 and 2015 he led the unit through development of several major offshore fields, and onshore developments in the Bakken, Eagle Ford and Marcellus plays, boosting production levels from 75 to 300K BOE/D.

As with other noted professionals, "retirement" for Bill has been in name only. Since 2015 he's been active as an advisor or nonexecutive director for companies such as Warburg Pincus, ATX, Trident Energy, and Balex Technologies. A long-term advocate and supporter of AAPG, he's been a member of the AAPG Corporate Advisory Board since 2008, has given key speeches at AAPG conventions, and is currently on the organizing committee of a series of major conferences on carbon capture, utilization, and storage. In 2017 he was honored by inclusion in AAPG's book *Heritage of the Petroleum Geologist*.

The roster of Bill's achievements, while impressive on its own, does not say enough about his true qualities as a person and mentor. As one of his VPs in Equinor's GEX, I was privileged to witness how leadership should truly work. Bill's charisma, communication and people skills were always used in a positive way. Somehow, he managed to embrace a wide variety of personality types—often way outside the corporate norm—in his management team, and weld them into an effective unit. He would encourage debate, and listen carefully to all arguments before making a decision. He was committed to the development of his people, and constantly stressed the need for work-life balance. Perhaps counter-intuitively, this made us all want to work even harder for his group's success!

Although Bill's commitment to his profession cannot be in doubt, he remains true to his first love—music. A world-class drummer, he is equally at home in a wide variety of genres, and is never happier than when seated behind his lovingly assembled drum kit playing blues, rock, jazz, or country. There's no contradiction here between the career and the music. For Bill, both come down to the same thing; teamwork, achievement, creativity and making sure to have some fun along the way!

Tony Doré

STEPHANIE NWOKO
Distinguished Service Award

Citation—To Stephanie Nwoko, a truly trailblazing geologist, in recognition of her tireless dedication and service to the petroleum industry and to the AAPG.

Her astounding track record of achievement and her unwavering commitment to progress, have undoubtedly shined out as a testament to her perseverance, ability, and skill as a geoscientist, as well as her devotion as a professional. She serves as an inspiration and role model for future geoscientists, and she spends considerable time giving herself to the betterment of others in AAPG. Stephanie has garnered an impressive track record of awards and achievements, including earning the 2024 AAPG'S Distinguished Service Award.

Over her 21-year career in the petroleum industry, Stephanie has worked in a variety of roles from mudlogging on an offshore drilling rig to creating sophisticated geomodels for both conventional and unconventional plays. Her experience and understanding of the industry make her a world class explorer. To date, Stephanie has worked international prospects in North and West Africa; the North Sea (United Kingdom, Denmark, and Norway); Brazil and Columbia. She also has considerable experience with domestic basis in areas such as south Texas, Louisiana, Alaska, west Texas Permian, Eagle Ford, DJ, and Appalachia.

She currently works as an independent consultant as senior geomodeler/reservoir geologist in Houston. She has also held roles with Canacol Energy Ltd as a senior geomodeler and geologist; Premier Oilfield Group as a project manager and lead geomodeler; Hillcorp Energy; Cegal/Blueback Reservoir, Senergy, HRH Geological Services, and Geoservices, as well as serving

as an independent geological consultant on a variety of projects.

Stephanie received a B.S. in geology from University of Port-Harcourt, Nigeria; an M.S. in petroleum geoscience from Royal Holloway University of London, Surrey, United Kingdom; a Global Executive M.B.A. from IESE Business School, Barcelona, Spain; and a Certificate in Reservoir Geomechanics from Stanford University in California.

Nwoko's impact on AAPG has been tremendous. In her 9 years of membership, she has been a catalyst for increased focus on diversity and inclusion within the organization. In fact, she was the first black woman to hold the elected position of secretary from 2019-2021. In addition to that role, she was one of the charter members of the AAPG Women's Network, due to her previous involvement in the Professional Women in Earth Science SIG (PROWESS), which is now one of the fastest growing special interest groups within AAPG.

She also served as a Visiting Geoscientist where she conducted a 3D Reservoir Modeling Workshop for students at multiple universities. She has served as chair for multiple AAPG events such as AAPG ICE Technical Programs in 2017 and 2018, while simultaneously teaching a short course during the 2018 ICE session in Cape Town, South Africa. She has also made many contributions to ACE and IMAGE conventions year-after-year by serving as technical program co-chair for DEG; as session chairs for the Future of Energy and PROWESS Forum; Special Session Chair Planning Committee; and been instrumental in planning/hosting various panels, talks, and sessions.

She has also shown a strong commitment to mentoring and helping students within AAPG. Alongside her work with the Visiting Geoscientist program, Stephanie has served as a mentor for students and early career professionals, as a judge for oral and poster sessions, and as an instructor in various short courses and guest lectures. Her visibility to the student population in both geosciences and engineering has undoubtedly helped countless students on their learning journey.

Within AAPG, Stephanie has won several awards including Division of Professional Affairs Recognition of Distinction in 2018 and AAPG Certificate of Merit in 2022. Outside of AAPG, she was honored as a 2021 ALLY GRIT Award winner for her myriad contributions to diversity within the industry.

Besides AAPG, Stephanie is highly active in other associations such as SPE, where she has served on a multitude of committees in various SPE chapters. Presently, she serves as a mentor for the 2024 SEG-Evolve Energy Exploration, an integrated multidisciplinary team internship program, showcasing her commitment to fostering growth and development within the industry.

Stephanie's service has made AAPG more robust, and she has empowered others on their geoscience journey. As a professional and as a friend, Stephanie is an amazing individual who has and will continue to positively impact the world around her. She is highly deserving of this award and the recognition for her many contributions to AAPG and the geoscience community.

Terra George

FOWZIA ABDULLAH

Grover Murray Memorial Distinguished Educator Award

Citation—To Fowzia Abdullah, for her dedicated service as a teacher and inspiration to generations of graduate and undergraduate students in Kuwait.

Fowzia Abdullah was born and lived in Kuwait and received her primary education there. After spending her senior years of high school in Kuwait, Fowzia enrolled at Kuwait University in 1978, where she completed the requirements for graduation and received a Bachelor of Science degree in geology in 1982.

In 1987 she received her M.Sc. degree in computer application in petroleum geology from Kuwait University. In 1993 she received her Ph.D. and D.I.C. degree in organic geochemistry in petroleum exploration from Imperial College, London University, United Kingdom.

She joined Kuwait University as assistant professor in 1993, since then she is heavily involved with teaching and research and community services and participating in many regional and international conferences and workshops as presenting the results of her research or chairing the

sessions or part of organizing committees. In 2000, during her sabbatical leave, she joined Institute Francais du Petrole as a scientific visitor for one year to continue her research with her IFP colleagues on source rocks of Kuwaiti oilfields. She built petroleum geology lab in her department to assist both her research and her graduate student's research.

She is the author or co-author of more than 22 scientific papers published in international refereed journals. She has more than 45 presentations and posters in national and international conferences, she also organized and /or participated in more than 35 workshops, training courses and field trips.

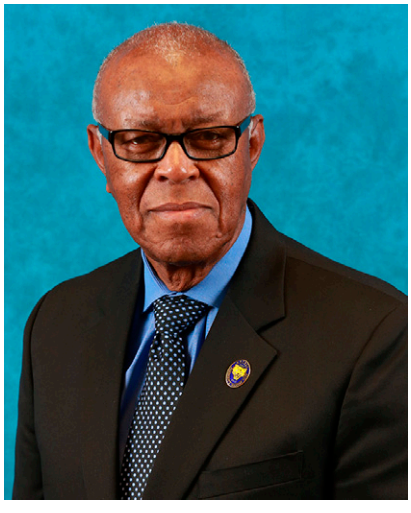
She has been very active in AAPG activities since she joined the association in 1989. She served in AAPG as Middle East representative in advisory council, adviser for AAPG student chapter in Kuwait and member of AAPG Middle East region council. She also affiliated with several professional organizations such as SPE, EAGE, Geological Society, London, and Third World Organization for Women in Science.

During her long service to education, she has been working as convener between the Earth and Environmental Science department at Kuwait University and Kuwait Oil Company KOC, to organize different cooperation tasks in both research and teaching program, and one of these was the initiation of a new specialization program in the department "Petroleum Geology." She also worked for 1 year as scientific advisor for KOC-Research and Technology department with their team as petroleum geochemistry and source rocks evaluation. She joined Kuwait Institute for Scientific Research-Petroleum Centre KISR-PRC as a consultant in December 2015 and is still there.

Fowzia professional interest in problem solving and the skilled way she practices her discipline as organic geochemistry, source rocks evaluation and basin modelling, standout and correlate them with reservoir characterization and exploitation, and applied her skills to find innovative solutions in cooperation with oil industry such as KOC and KISR. Therefore, her contributions to oil industries on practical methods and applications speak to her ability to identify and work with her colleagues and KOC expertise other than her own.

Because of her outstanding numerous contributions and long service in academia, she is a most deserving recipient of AAPG's Grove E. Murray Memorial Distinguished Educator Award.

Abdulrahman Alsharhan



ISAAC J. CRUMBLY

Grover Murray Memorial Distinguished Educator Award

Citation—As the founder and director of the Cooperative Developmental Energy Program at FVSU, which has been in existence for more than four decades, his passion and dedication to students' success in STEM is to be commended. Congratulations!

Dr. Isaac J. Crumbly's life began in 1938 in Widener, Arkansas, a small rural city located approximately 40 miles west of Memphis, Tennessee. He is the 7th of 11 children born to Isaiah and Edna Crumbly and was raised on a 70-acre farm that his parents rented. His father was a rural mail carrier and completed the fifth grade, which was considered well-educated for African Americans who were born in the late 19th Century. His mother was a homemaker who completed the third grade and worked on the 70-acre farm.

Isaac completed high school in 1957 at the segregated Lincoln High School in Forrest City, Arkansas and enrolled at Arkansas Agricultural, Mechanical, and Normal College (now, University of Arkansas at Pine Bluff) to pursue a bachelor's degree in horticulture and that was followed by a master's degree in horticulture at the University of Illinois, and a Ph.D. degree in botany at North Dakota State University.

As a Fort Valley State University (FVSU) faculty member, Dr. Crumbly has always had two interrelated passions: (1) to provide FVSU students with access to enhanced career opportunities that are over and above what they normally would get in the classroom; and (2) to create a STEM pipeline program that is unique to FVSU and is second to none in attracting academically talented students to the

University. In pursuit of those passions, he began researching grant opportunities that would provide funding to support his goals. After a great deal of research and with no prototype to follow, Dr. Crumbly launched the FVSU Cooperative Developmental Energy Program (CDEP), after successfully competing for funding from the U.S. Department of Energy. The first iteration, in 1984, was a successful minority student summer energy internship program in which hundreds of FVSU's academically talented students were hired as interns with a significant number being hired to full employment upon graduation.

In the second iteration of CDEP, Dr. Crumbly wanted the program to focus more on being a STEM-based program underpinned by disciplines that are important to the energy enterprise. The challenge he faced was that FVSU, typical of an Historically Black College and University (HBCU), did not offer degrees in engineering, geology, geophysics, and health physics as areas of concentration to meet the STEM criteria. Undaunted, in 1992, he established 3+2 dual-degree programs with other universities. The dual-degree-program concept consisted of students earning a bachelor's degree in mathematics, biology, or chemistry during three rigorous years of study at FVSU and then transferring for two additional years of study to earn a second bachelor's degree in engineering or health physics at the University of Nevada-Las Vegas, or in geology or geophysics at the University of Oklahoma. The CDEP dual-degree programs proved to be successful.

Between 2000 and 2021, Dr. Crumbly worked diligently to expand the number of partnering universities giving CDEP students more options. During the 32 years of the dual degree program, CDEP has partnered with: Georgia Institute of Technology, Grand Valley State University, Pennsylvania State University, University of Alabama, University of Arkansas, University of Nevada-Las Vegas, University of Oklahoma, University of Texas-Austin and University of Texas-Pan American. Today, after meeting FVSU requirements, students can transfer to one of CDEP's seven partnering universities to earn a second degree in engineering, geosciences, or health physics. The CDEP has awarded more than $20 million in scholarships for the collegiate component of the pipeline and has mentored nearly 500 college students.

Dr. Crumbly pioneered how HBCUs and other minority-serving institutions working with predominately white institutions (PWIs) is mutually beneficial for both, and the nation. He focused on a program blueprint that revolves around developing partnerships. He advocates that through HBCU/PWI partnerships, where HBCUs can expand their academic offerings and PWIs have greater access to a diverse student population. Because of this program format, CDEP and its partnering PWIs have awarded hundreds of STEM degrees. FVSU-CDEP has awarded 30 bachelor's degrees in Biology, 65 in Chemistry, and 174 in Mathematics. CDEP's partnering universities have awarded 129 bachelor's degrees in engineering, 51 in Geology/Geophysics, and 12 in Health Physics. As of 2023, the FVSU-CDEP/PWI partnerships have awarded a combined total of 461 bachelor's STEM degrees which does not include the many CDEP graduates who have gone on to earn graduate degrees in engineering, geosciences, and health physics with partnering universities. Partnering relationships have produced 51 minority geoscientists with females making up approximately forty-five percent of the total. The fact that these 51 geoscientists came from homes where the parents and relatives had never worked as geologists or geophysicists is phenomenal. Significant too, is that the majority of CDEP's partnering PWIs had not awarded a geology or geophysics degree to an African American student outside of CDEP.

Another outstanding aspect of CDEP is its multifaceted structure consisting of a 9th through 12th-grade pre-college STEM mathematics, science, and engineering academy (M-SEA) as a high-school feeder program with over 900 high school students mentored to date. Dr. Crumbly's pre-college program has been replicated by The University of Texas-Austin in its pre-collegiate GEOFORCE program. The M-SEA graduates and other qualified high-school graduates feed into CDEP's dual-degree program at FVSU. The STEM pipeline is funded by participating corporations and governmental agencies that have access to the students, offering internships and

full-time employment upon graduation. To maintain the level of financial support needed to serve students in the program, Dr. Crumbly is continuously working to maintain existing relationships and develop new relationships with organizations who benefit from graduates exiting the CDEP pipeline. Overall, CDEP is a STEM pipeline program that extends from the 9th grade with access to the Ph.D. and is recognized as one of the nation's best pre-collegiate/collegiate STEM pipeline programs for under-represented minorities and women.

Dr. Crumbly is the recipient of the nation's highest STEM mentoring award, the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring, presented by President Barack Obama. He was also selected to serve on the STEM Undergraduate Education Working Group for the President's Council of Advisors on Science and Technology.

Dr. Crumbly's CDEP should be a poster child for the US Department of Energy, its Office of Economic Impact and Diversity, and the private sector of the nation's energy enterprise. Congratulations Dr. Crumbly!

Stephen E. Hammond

Response

I humbly give thanks and heartfelt appreciation to the AAPG committee for selecting me as a 2024 recipient of the prestigious Grover E. Murray Distinguished Educator Memorial Award. Notification of the award came as a complete surprise, and I am proud to receive this award which honors the memory of Murray who made such a great impact on geoscience education and the oil and gas industry.

It is certainly plausible to ask why I have been chosen to receive this award when I am not an engineer, geologist, nor health physicist. Actually, my bachelor's and master's degrees are in horticulture and my Ph.D. is in botany. Although my educational background is not directly related to geoscience or the oil and gas industry, it seems I was destined for a career path that would contribute to work in these areas. It all began in 1983 when I was awarded a grant from the US Department of Energy's Office of Minority Economic Impact (now, Office of Economic Impact and Diversity) to develop a Cooperative Developmental Energy Program (CDEP) to address the underrepresentation of minorities and women in the energy industry's workforce.

As CDEP director, my first challenge was to bring academically talented African American students in contact with various segments of the energy industry and vice versa. This challenge was accomplished by developing a minority student summer energy internship program (MSSEIP) and hosting an annual energy career day on the Fort Valley State University (FVSU) campus. To help prepare CDEP students for internships, I developed two one-hour credit seminar classes with one focusing on nonrenewable energy sources and the other on renewable energy sources. The seminar format served as a vehicle to recruit experts from the energy industry to give presentations on a weekly basis.

During my efforts to learn more about the energy industry in Georgia, I was introduced to an extraordinary individual named James K, Davis, who at the time was director of corporate relations at the Georgia Power Company. In that position, he was familiar with the leadership of several energy companies that included Georgia Power Company, Atlanta Gas Light Company, Oglethorpe Power Corporation consisting of 38 electric cooperatives, and the Municipal Electric Authority of Georgia with 49 electric cooperatives. Much time was spent during the 1983-1984 school year visiting the various membership cooperatives to set up internships. During the 1980s, very few energy companies recruited students from HBCUs for summer internships. So, to serve as an incentive to the companies, CDEP paid half of the $6.25/hourly rate for each internship student.

The CDEP's MSSEIP was launched the summer of 1984 with approximately 40 students serving as interns. Between 1984 and 1992 hundreds of students participated in energy internships and a significant number were hired to full-time employment upon graduation. Although MSSEIP was highly successful, I felt that a STEM based workforce program would be more beneficial than a multi-discipline internship program. After researching disciplines most germane to the energy industry, I chose engineering, geology, geophysics, and health physics. My rationale for these disciplines was because engineering is essential for all segments of energy, geology and geophysics are essential for the exploration of oil and gas, and health

physics is essential for the nuclear power industry. However, there was a big challenge; FVSU does not offer any of these degrees. It became obvious that if CDEP were going to move forward with these disciplines, it would be via dual-degree programs with partnering universities.

During MSSEIP, I met several individuals from industries and governmental agencies. Two of these individuals played an important role in helping me establish partnerships with predominantly white institutions (PWIs). One of these individuals was Jerry Truax who worked at the DOE Nevada Operations Office in Las Vegas, Nevada. Jerry introduced me to William Wells, dean of the College of Engineering at the University of Nevada-Las Vegas (UNLV). Wells was very interested in establishing dual degree programs in both engineering and health physics. Joseph "Joe" Huffstetler was the second person who assisted me in establishing a relationship with a PWI. Joe was a recruiter for Occidental Petroleum Company. He introduced me to James "Jeff" Kimple, dean of the College of Geosciences at the University of Oklahoma (OU). Jeff was very enthusiastic about forming dual degree programs in geology and geophysics.

Both deans were excited about establishing a partnership with FVSU-CDEP to bring about diversity in their respective Colleges. The first task was to design the curricula for a 3+2 format so that the scholars in the program would graduate with a bachelor's degree from FVSU in biology, chemistry, or mathematics and after transferring would graduate with a bachelor's degree in engineering or health physics from UNLV or a bachelor's degree in geology or geophysics from OU. The dual degree curricula for these HBCU/PWI partnerships were implemented in 1992.

My ultimate goals are to create sustainability for CDEP and continuously enhance opportunities for students through CDEP. As such, to enhance recruitment efforts, in 1993, CDEP established a precollege feeder program called the mathematics, science, and engineering academy (M-SEA). The M-SEA is instrumental in exposing high-school minority students to STEM majors and careers.

Recent enhancements to CDEP include expanded its dual degree options to include computer science; evolved into a 3+3 dual degree program with bachelor's degrees from FVSU and graduate degrees from one of CDEP's partner universities; and multiplied the list of partnering universities from two PWIs to seven with future aspirations of adding more. It is my hope that the concerted efforts of FVSU-CDEP and its partnering universities, will continue to contribute towards a solution for addressing the nation's STEM workforce shortage.

More than 40 years of my career have been dedicated to providing educational and vocational opportunities for underrepresented and underserved students; it has been my passion and my joy in life! I am sincerely grateful to AAPG for recognizing my life's work by honoring me with the Grover E. Murray Distinguished Educator Memorial
Award.

Isaac J. Crumbly

ACGGP Harrison Schmitt Award

Citation—Its exceptional contributions to geoscience communication, education, and community service through its Regional Pedagogy Program and related projects, including educating geoscientists about energy's social challenges.

The Colombian Association of Energy Geologists and Geophysicists (ACGGP) is a nonprofit entity, a member-driven geoscientifical association created back in 1957. Since its creation, the main objective has been to foster and strengthen personal, technical, and social relationships between professionals linked to earth sciences and related professions, especially between geophysicists and geologists of petroleum and energy resources. The association has been promoting academic research in these disciplines, developing the professional knowledge of its members, and disseminating knowledge in the communities of Colombia.

The ACGGP is the pioneer professional association in designing, implementing, and growing the relevant educational geoscientific program, *Pedagogía Regional* (Regional Pedagogy Program) that helps rural and urban communities understand the Earth's processes. The program runs under the following premises: communication of

technical knowledge, respect for others' knowledge, appropriate use of language, and the importance of listening to members of communities living in areas with oil and gas and other energy exploration and development projects. https://www.acggp.org/pedagogia-regional/

The initiative, founded in 2017, has impacted 21,504 people by 2022. Program organizers have conducted activities in 57 municipalities in 20 Colombian departments (states) and performed more than 580 activities related to communicating and disseminating information about geology and earth science.

The program has helped to combat significant misinformation related to the energy sector's impact on climate change, water pollution, and natural disasters, and aided in clarifying misperceptions related to seismic exploration, oil production versus water consumption, hydraulic fracturing (fracking) techniques, and other concepts.

The program has built trust and deepened relationships between local communities, government entities, and the hydrocarbon sector by implementing a clear, wide-ranging, and pedagogical communication strategy.

The *Pedagogía Regional* program includes three projects:

- Geological City (https://www.acggp.org/ciudad-geologica-2/)
- Geological Adventures (https://www.acggp.org/aventuras-geologicas/)
- Geology & Society. (https://www.acggp.org/guajira-2022/)

One of the most exciting projects, *Geology & Society*, was crafted to work specifically with rural and indigenous communities to establish "geological schools" with teaching material designed to include the integration of scientific knowledge into cultural and ancient knowledge. The result is a practical tool to aid community members in decision-making.

The latest implementation of the Geology and Society project took place in a community of former guerilla fighters in Guaviare, a department in Southern Colombia affected by the country's decades-long armed conflict. This project counseled the community members on managing groundwater that serves as the primary water supply for the population center. The project included the development of a groundwater primer for children, which was designed with community members as a part of their engagement with the project. The primer, titled *Geological Adventures: Water*, is available to the public at: https://www.acggp.org/guaviare-2021/

The primary outcomes of the Regional Pedagogy Program for the society and the geological community include

- **Science communication training:** Geoscientists learn pedagogical skills, including how to use appropriate didactics and methodologies to teach geology to anyone.
- **Teamwork for innovation:** Geoscientists work in interdisciplinary teams to craft geological teaching methodologies.
- **Science communication/On-the-job training:** Geoscientists work with communities, government entities, and oil and gas company staff to learn and teach others about seismic exploration, the water cycle, energy transition, climate change, geology, oil and gas exploration and production, geology for sustainability, among other topics.
- **Didactic geoscience material for diverse audiences:** Program staff produces didactic material in Spanish that addresses geological concepts using language appropriate for facilitating dialogue between various stakeholders in the regions. Between 2017 and 2022, team members published one (1) book, 17 videos and 23 articles.
- **Influence on the administrative organization of the regions:** Program staff provide geological consulting related to the organization of the territories in coordination with governmental entities.
- **Development of sustainable development projects:** Collaboration with communities and industry to recommend projects that contribute to the community and sustainable development in the territories.
- **Community empowerment:** Promotion of oversight exercises by communities about activities of exploration and production of non-renewable resources.
- **Building relationships with industry:** Alliances with oil and gas companies to disseminate knowledge of petroleum geoscience. Companies that have supported and benefitted from the project include Ecopetrol, Canacol

Energy, Gran Tierra Energy, Hocol, and Parex Resources.

- **Building relationships with geological associations/institutions to grow the program:** Alliances with other professional and governmental entities to promote and deliver geological knowledge to Colombian citizens. Partner societies include the Colombian Society of Geology, the Colombian Geological Service, and AAPG.

Elvira Gomez Hernandez

JULIA HENNINGS

Geosciences in the Media Award

Citation—We recognize Julia Hennings for her dedication to making earth science accessible to educators, students, and the general public as program manager for the EarthDate radio broadcast and website.

Julia Hennings was born near Manchester, England where her father was stationed at RAF Station Burtonwood. Her US Air Force family moved every couple of years to assignments in the United States and Europe. She received a B.S. in geology from the University of Florida, and an M.S. in geology from the University of South Carolina before joining Conoco in 1981. During her 35 years with Conoco she worked new ventures, exploration, and production assignments both domestically and internationally, with foreign assignments in the Congo and Dubai. She served as executive assistant to the vice president for Africa, Asia-Pacific, and the Middle East, then was selected as the geology representative from the Conoco Research organization to the ConocoPhillips merger team. After the merger she served in several managerial roles including the Sedimentology and Stratigraphy Research Group, Geoscience Excellence, and Global Knowledge Sharing. ConocoPhillips' Knowledge Sharing organization was an award-winning program that operated across 15 functional disciplines and 15 geographical locations.

In her last two roles, she was instrumental in ensuring essential corporate knowledge was efficiently shared among ConocoPhillips global business units, focused first on geoscience, and then increasing scope to range from science and engineering problem solving to legal and financial capability building. This required an ability to understand how people in different types of roles take up knowledge, and to help translate concepts among different skillsets and nationalities to better enable broad understanding and teamwork.

Juli served as vice chairman of the AAPG Education Committee from 2005–2011. As a lifetime learner and storyteller, she particularly enjoys using her communication skills to explain scientific concepts to nonscientists, especially young adults and kids. After retiring from ConocoPhillips, she found she had a goal in common with The University of Texas at Austin (UT) Bureau of Economic Geology Director Scott Tinker—to create a radio broadcast similar to UT's long-running "StarDate" for earth science, and in late 2016, "EarthDate" was born at The University of Texas Jackson School of Geoscience's Bureau of Economic Geology, with Juli working as a half-time employee.

Juli is the program manager and content producer for "EarthDate", having developed the stories behind more than 400 episodes of the program, 387 of which are currently published online. That's one program each week for more than seven years. Juli writes up each story as a 4-6 page manuscript with references, often working with expert scientists from universities and governments around the world. She passes these documents on to Emmy-award winning filmmaker Harry Lynch who writes a 90-second audio script that is narrated by former BEG Director Scott Tinker. After recording at a local Austin audio studio, a team from BEG Graphics produces beautiful website and PDF layouts of the full illustrated manuscripts in both color and black and white, specifically for use in STEM education in middle school, high school, and community colleges. The website gets more than 19,000 unique hits each month and the audio segments are broadcast at more than 450 stations in the United States, Canada, New Zealand, and the Philippines. Search for your favorite topics and listen, then read the curated background details at EarthDate.org.

DALE LECKIE

Geosciences in the Media Award

Growing up in northeast Alberta, Dale was greatly interested by the landforms, mountains, rivers, botany, and wildlife of western Canada. As an undergraduate at the University of Alberta, his enjoyment of an introductory geography course led him to earn a B.Sc. in geography in 1977. He moved on to McMaster University, obtaining a M.Sc. in geography in 1979 and a Ph.D. in geology in 1983.

Dale started his career as a geologist with Petro-Canada Resources in 1982. Three years later, he joined the Geological Survey of Canada. He returned to industry in 1998, joining Wascana Energy (later to become Nexen Inc.) as chief geologist. In 2014, Dale retired from industry and joined the University of Calgary as an adjunct professor in the Department of Earth, Energy, and Environment.

Over his 30-year career, Dale became a leading authority on the stratigraphy and sedimentary geology of Western Canada. He has contributed to more than 200 technical articles, papers, posters, and oral presentations, winning multiple awards, such as the Canadian Society of Petroleum Geologists' Medal of Merit for the best paper in Canadian petroleum geology, and the Gabriel Dengo Award for the best presentation at AAPG ICE.

Dale says he always wanted to write books, but didn't have the time to do so until he retired from industry. Writing guidebooks was a natural progression from his work as a researcher, and the natural history of his home province was the perfect subject matter. In 2017, he published *Rocks, Ridges, and Rivers: Geological Wonders of Banff, Yoho, and Jasper National Parks*, which was followed in 2021 by *The Scenic Geology of Alberta: A Roadside Touring and Hiking Guide*. His third book, *Wildlife, Landscapes, and Geology: An Alberta and Saskatchewan Touring Guide*, was released this year. In these guidebooks, he merges science with storytelling, successfully balancing the needs of professionals, informed amateurs, and those without a geoscience background.

By writing the guidebooks, Dale hopes to get people outside to see and appreciate the fascinating Alberta landscape. I dare say he has succeeded—his books are award-winning regional bestsellers, and since publishing the first book, he has shared his knowledge of Alberta's rocks, rivers, and ridges at more than 100 public presentations to several thousand people. For these reasons, Dale is most deserving of the Geosciences in the Media Award.

Cynthia Hagstrom

ABDULLAH WALEED AL-KANDARI

Young Professionals Exemplary Service Award

Citation—To Mr. Abdullah Waleed Al-Kandari, for his exceptional and exemplary contributions in promoting interest in the geosciences and growing the AAPG Middle East's young professional geoscience community.

Mr. Abdullah started his association with the AAPG community as a student member at Kuwait University back in 2013. He participated in the Imperial Barrel Award (IBA) competition twice, securing second place on both occasions. The first time was in 2012 during his bachelor's degree at Kuwait University and the second time was in 2019 during his master's degree at Manchester University. As a technical supervisor at Kuwait University, Mr. Abdullah provided excellent guidance to the students participating in the IBA competition, which led them to secure second place in 2022. As a co-founder and board member of the Kuwait Geosciences Society (KGS), he has shown great enthusiasm and

commitment to the success of KGS, particularly in the early stages by promoting the importance of volunteering among young geologists with technical skills and creativity.

As chairperson of various committees such as the Young Professional and Student Support Team for both AAPG and AAPG Middle East Region as well as the AAPG GEO-KWT Student Support Team in Kuwait, he has made significant contributions to the growth of the AAPG community. He has also received the AAPG Middle East Region Young Professionals/Student Participation Award in 2018. For his outstanding contributions to the geoscience community through geoscientific research and its application to petroleum exploration, he was nominated as a member of the Middle East Advisory Council for the European Association of Geoscientists and Engineers 2021 in the Middle East Region. He made significant contributions as a Technical Committee member at the Middle East Conference and Exhibition (GEO 2018) and also served as the chairperson for the GEO Conference and Exhibition Young Professionals and Students Activities in the same year.

Furthermore, Mr. Abdullah has made a significant contribution as a co-author to the highly acclaimed book *The Geology of Kuwait*, which was published in 2023. Throughout his career as a geologist, Mr. Abdullah has taken part in various conferences and workshops, acquiring knowledge and exposure to new ideas and approaches that have enhanced his effectiveness and efficiency at work. Mr. Abdullah, not only integrates well with his coworkers but also excels at efficiently handling multiple projects, even when faced with conflicting priorities in challenging situations, consistently achieving outstanding results. His creativity, high ambitions, and never-say-die attitude make him a brilliant young petroleum geologist with a clear vision of his future goals.

Talal Al-Adwani

DAVID R. COOK

Vlastimila (Vlasta) Dvořáková International Ambassador Service Award

Citation—For assiduously promoting AAPG internationally and enhancing the education of the next generation of petroleum geologists through dedicated mentoring and support.

Dr. David R. Cook is a native of Lancashire, England. He earned a bachelor's degree and Ph.D. in geology at the University of St. Andrews in Scotland, where his geologic studies and publications improved the understanding of Scottish geology. Dave enjoyed a 31-year career with ExxonMobil, during which he worked on exploration and production geology and was based in London, England; Jakarta, Indonesia; Florham Park, New Jersey; and Kingsville, Texas. His final corporate assignment as a geoscience recruiter familiarized him with the geoscience departments of many universities in Europe and the critical need to nurture geoscience talent. It also cultivated his taste for wonderful continental cuisine and Bordeaux wine. Dave's recruiting experience directly benefited AAPG because it instilled in Dave a willingness to work with university students and encourage them to consider careers in petroleum geoscience, albeit without an expense account.

Once freed from the yoke of full-time employment, Dave began essentially full-time volunteer work for AAPG. He spent his first 6 years of volunteer activity serving two-year terms as president-elect, president, and past-president of the Europe Region. The Region was in its infancy, but Dave worked with, and in many cases recruited and mentored, volunteers who have built the Region into a model for other AAPG Regions. After being "past-just about everything" in the Region, Dave informally advised and assisted as needed.

Dave served as 2012-2015 co-chair of the Imperial Barrel Award (IBA) committee with Chuck Caughey. During that time, he and Chuck ensured the viability of the program through a period of tremendous international growth as this flagship program grew to reach hundreds of students worldwide each year. He is now helping IBA expand into geothermal energy and carbon mitigation to meet the needs of geoscientists supporting the energy transition. Dave continues to devote substantial time as an

advisor to the IBA committee to ensure the continued relevance and success of the program.

Dave next served as 2017–2019 AAPG vice-president-Regions, during which time he developed a series of best practices for the Regions and reviewed the value of the relationship with affiliated societies.

Because of Dave's thorough understanding of the "spaghetti diagram" that represents the big picture of the AAPG organization and its many components, he has been the "go-to" person for many volunteer tasks, including thorny roles in the House of Delegates and service on ad hoc committees that required not only significant time, but careful attention to diplomacy and proprietary information. He engages with faculty, students, members, volunteers, and staff in a consistently professional and courteous manner. He delivers on his volunteer commitments. He strives for constant improvement in what he does and in what AAPG does.

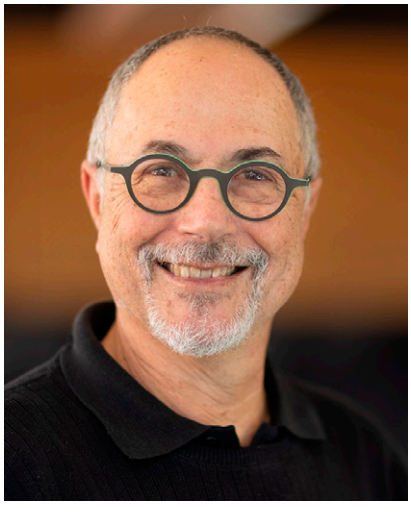
Throughout these years of service to AAPG, Dave has retained his enthusiasm for petroleum geology through attending conferences, working with IBA teams to consider exploration problems, occasionally reviewing manuscripts for the *AAPG Bulletin*, and even observing rocks in their natural environments.

Some of Dave's motivation to contribute to AAPG comes from the many friendships he has developed and sustained throughout his volunteer career. It is sad that our dear friend Vlasta Dvorakova did not live to see Dave receive this award. However, Dave is overjoyed to celebrate with fellow honorees John Kaldi and Victor Vega, and with the many AAPG members he has enjoyed working with over the years.

While this biography might give the impression that Dave is chained to his desk and working for AAPG much of the time, he manages to enjoy his free time visiting family, including beloved grandchildren in the United Kingdom; observing geology in exotic locations such as Alaska, Iceland, and Oman; and planning for the next big adventure.

Congratulations to Dave Cook for this well-deserved recognition!

Gretchen M. Gillis



JOHN KALDI

Vlastimila (Vlasta) Dvořáková International Ambassador Service Award

Citation—To Dr. John Kaldi, an AAPG global ambassador, scientific leader in reservoir geology, seal evaluation, and an early innovator in CCS studies.

It is altogether fitting that Dr. John Kaldi is the recipient of this year's Vlasta Dvorakova International Ambassador Award. Vlasta's accomplishments and John's accomplishments have a lot in common. John has spent the past 40+ years promoting growth and awareness of the AAPG internationally. His success as a geoscience ambassador is due to his innovative applied research, teaching, and mentoring.

As a researcher, John has made fundamental contributions in multiple disciplines. Early in his career, John focused on carbonate sedimentology and reservoir geology; later, he made significant advances in the analysis and prediction of seals, and then applied these concepts to carbon capture and storage (CCS).

After graduating from Cambridge University with his Ph.D. in 1980, John started his career as a carbonate sedimentologist. Initially, he joined the Saskatchewan Geologic Survey, and then Shell Canada in 1982. In 1987, he moved to ARCO, serving in Dallas and subsequently Jakarta. While employed with ARCO John's career took a different direction courtesy of AAPG president Marlan Downey. John expanded Marlan's influential paper on seals (published in the 1984 *AAPG Bulletin*) to address the petrophysics and engineering aspects of seals. He demonstrated his scientific leadership by organizing two Hedberg Research Conferences on seals, developing a short course, and writing and co-editing a book. This work has been used extensively by explorationists analyzing predrill risks and planning the development of fields.

John's comprehensive understanding of seals led him to his next significant contribution—CCS. He began working in CCS in 2001 and recognized early that one of the key issues is containment (i.e., seals). He quickly became an early leader in

the discipline of CCS. With time, the governments and industry began to fund CCS research, leading to the establishment of the Cooperative Research Center for Greenhouse Gas Technologies (CO2CRC) at the University of Adelaide. John worked as the program manager, chief scientist, and recently was awarded Distinguished Scientist and Emeritus Professor status. He has been an incredibly articulate spokesman for industry because he understands reservoir geology, and what happens to CO_2 when injected into the subsurface.

Perhaps the best indicator of John's global influence as a researcher is his selection as a Distinguished Lecturer by three different professional societies. Specifically, he served twice as Distinguished Lecturer for AAPG (Asia Pacific, 2002-2003; Europe, 2009-2010); twice as SPE Distinguished Lecturer (CCS in 2003-2004; Net Pay Determination in 2019-2020), and once for PESA (Seal Evaluation, 1996-1997).

As a teacher, John's influence is substantial and global. At the University of Adelaide, he was the founder and inaugural head of the Australian School of Petroleum (ASP) in 2002. The ASP offered the first integrated geoscience, engineering, and petroleum business management university program in the southern hemisphere and is now the largest such school.

During his career at the University of Adelaide, John has trained and supervised hundreds of graduate and undergraduate students. Importantly, he has served other universities as well, working as an external examiner for graduate programs at Chulalongkorn University in Bangkok, University of Technology for Petronas in Kuala Lumpur, and the University of Brunei. He is presently an adjunct professor at Institit Teknologi, Bandung (ITB) in Indonesia. This time-consuming commitment speaks well of John's dedication to education & training across the Asia-Pacific Region.

Similar to Vlasta, John's service to the AAPG has been prodigious. He has exposed and recruited hundreds of students in the greater Asia-Pacific region to AAPG specifically, and professional societies in general. His AAPG activities include vice president, Regions (2013 - 2015); chair of the HOD (2020); technical program co-chair for three AAPG International Conferences (Singapore-2012, Bali- 2010, Perth-2006); co-chair of AAPG Visiting Petroleum Geologist Committee (2008 - 2011); convener and co-chair: AAPG/SPE/SEG Joint Hedberg Research Conference on "Geological Carbon Sequestration," Vancouver (2009); chair AAPG Regions Committee (2005 – 2008); convener and co-chair of two AAPG Hedberg Research Conferences on seals (Crested Butte, Colorado, 1993; Barossa Valley, Australia, 2002); president, AAPG Asia Pacific Region (2002 - 2005); and AAPG Visiting Petroleum Geologist (2002 - present). He served on the Advisory Council twice (Asia-Pacific Region president; past chair of HOD), and I think he is the only person ever to receive two AAPG Distinguished Service Awards!

In summary, John's overall record is unique—few AAPG members have had this breadth and diversity of disciplines. He has been an organizer and uniter in his fields, bringing people together to work on real and sometimes thorny issues, while always doing it with a smile, a sense of humor, and glass of fine Australian shiraz in hand. A great friend and admirer of Vlasta, John's career epitomizes the very essence of her accomplishments; she is sure to be smiling somewhere on John knowing that he is a recipient of "her" award! Our heartiest thanks and congratulations to John Kaldi upon receipt of this award.

Paul Weimer

VICTOR VEGA

Vlastimila (Vlasta) Dvořáková International Ambassador Service Award

Citation—To Victor Vega, for his boundless energy and enthusiasm, proven leadership, unwavering support for the Latin American energy industry, and dedicated service to the AAPG.

I have known Victor Vega as a colleague and friend for more than 35 years, and it is my pleasure to write this short biography based on

personal experience. Victor was born in Bogota, Colombia, and graduated with a degree in geology from the Universidad Nacional de Colombia in 1989. After two short summer internships at the local affiliates of Exxon and Oxy, he began his professional career working for the Colombian Geological Survey, doing geochemical field work in the Eastern Cordillera.

In 1991, Victor went to study at the University of South Carolina in Columbia, South Carolina where he obtained his M.Sc. in geophysics. In 1993 Victor joined Amoco Production Company in Houston as a summer intern, working on regional studies of the Caspian Sea. At that time, Victor was not aware his work for Amoco would be the beginning of his distinguished work with some of the largest exploration companies in the world.

From 1994 to 1996, Victor worked as a geophysicist for the Amoco Production Company. His assignments at Amoco covered a range of technical areas, including a focus on potential fields, remote sensing, seismic acquisition, AVO processing, and work as a geophysical interpreter for two blocks in Colombia. During that period, Victor began learning and honing what would become one of his trademark skills: establishing technical and trusted human connections and partnerships with stakeholders, companies and governments. He started with Ecopetrol, Colombia's national oil company.

After the merger of BP and Amoco in 2000, Victor began a 10-year formative period with various BP affiliates. From 2000 to 2004, Victor was closely associated with the planning and development of the Jonah/Pinedale field, first as the principal geophysicist and eventually as the project manager. After Pinedale, Victor had a short assignment as resource manager of a pilot project in the tight gas team of the Canada business unit. From October 2004 to July 2005, he was assigned as exploration and development team lead for the Wamsutter joint venture.

In July 2005, Victor went to work for BP Andean Inc. as reserves progression manager in Colombia, in charge of the large Cusiana/Cupiagua/Piedemonte fields, and responsible for the depletion plan strategies to sustain production. At that time, he was the technical representative for the partners, including Ecopetrol. Victor was then transferred to Venezuela, where he worked from May 2008 to November 2009 as technical manager in charge for the development strategies for the PetroMonagas heavy oil and PetroPerija and Boqueron light oil projects. He also served as technical representative for relationships with PDVSA at the time of President Chavez's nationalistic oil policies. Victor's last year at BP Andean was dedicated to leading subsurface and exploration teams in Colombia and Venezuela, including the fold-thrust belt fields of the Eastern Cordillera foothills, two Offshore Caribbean blocks in Colombia, and heavy oil and light oil in Venezuela.

During the following 4 years Victor worked for Equion Energía, a Talisman/Ecopetrol Joint venture, as vice president of subsurface, exploration, and new business in Colombia. Activities included offshore shallow and deep-water exploration projects in Colombia. In the foothills area, Victor initiated a ten-well expansion project of the Cusiana-Cupiagua fields, as well as the drilling of several deep and complex exploration wells in the Eastern Cordillera foothills.

In February 2015, Victor accepted a job with Shell in Houston and began working as new ventures delivery manager. Victor spent the following 4 years working in various managerial positions, where he was responsible for Shell's frontier growth strategy. His responsibilities covered a wide range of activities in Colombia, Argentina, Mexico, Suriname and Peru.

- In Colombia, Victor initiated the process to acquire discovered-undeveloped gas resources in the Caribbean offshore Col-5, Purple Angel and Fuerte Sur blocks. In 2021, Shell drilled and tested the Gorgon-2 exploratory well, confirming the area's large potential.
- In Argentina, Victor was instrumental in delivering two offshore blocks (CAN 107 and 109), followed by the acquisition of a three-dimensional seismic program and the initiation of the first exploratory well.
- In Mexico, he oversaw preparations for country entry prior to the first bid round.
- In Suriname, his efforts were directed at progressing the exploration wells in the area.

During his time at the company, Victor acted as a goodwill ambassador for Shell, which benefited from

his ability to build trusted relationships with all levels of government, with joint venture partners and with local communities.

In October 2021, Victor returned to Colombia to work for Frontera Energy as corporate vice president of exploration, development, and reserves. This most recent position enables Victor to employ his managerial and personal abilities. Victor manages Frontera's exploration activities in Colombia, Ecuador, and Guyana, thus far resulting in four oil discoveries in Ecuador and two in Guyana.

Victor's generous and continuous contributions to AAPG include his participation in four successful International Conferences and Exhibitions (ICEs) throughout Latin America. In 2013, Victor served as general chair of the ICE in Cartagena (Colombia), the second most attended in the history of ICE events. Victor served as vice chair of the combined 2016 AAPG/SEG ICE held in Cancun (Mexico). He helped take the event for the first time to Argentina and served as vice chair for ICE Buenos Aires 2019. Following the COVID-19 pandemic in 2022, Victor served as general chair for the ICE held for the second time in Cartagena. He currently is working with companies and volunteers in Brazil to organize ICE Rio 2025.

Not content with being the "king" of ICEs, Victor has served in other AAPG roles, including being member of the Advisory Council for the Latin America and Caribbean Region (LACR), 2016-2019, and served as LACR president and vice president from 2015-2017 and 2009-2011 respectively. He serves as an AAPG Visiting Geoscientist and helped to bring the American Geosciences Institute Earth Science Week Program to LACR during his term as region president.

Victor received AAPG's Distinguished Service Award for his work with student chapters.

Victor also has helped to organize numerous events in partnership with AAPG affiliated societies, including the Colombian Association of Petroleum Geologists and Geophysicists and the Argentinian Association of Petroleum Geologists and Geophysicists, and the Brazilian Association of Petroleum Geologists.

His interest in organizing conferences started when he served on the organizing committees for the 2006 Bolivarian Symposium and the International AAPG/SEG/EAGE in 2008, both held in Cartagena.

Victor truly is a global ambassador, both for our industry and for AAPG, and is a worthy recipient of the 2024 Vlastimila (Vlasta) Dvorakova International Ambassador Service Award.

Miguel Ramirez

Response

I am deeply honored to receive the 2024 Vlastimila (Vlasta) Dvorakova International Ambassador Service Award. I have wonderful memories of my interactions with Vlasta during our annual Regions meetings and at other AAPG events, and it is a privilege to be recognized with an award named in her honor.

I would like to recognize all my friends and colleagues from Argentina, Brazil, Colombia, Ecuador, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay, the United States, and Venezuela who supported me during my terms both as President and as Vice President of the Latin America and Caribbean Region and during my service and Chair or Co-Chair of International Conference and Exhibition (ICE) events and other activities held in the Region.

I have had quite an interesting and fruitful journey since being invited to get involved with the Latin America and Caribbean Region (LACR) in 2008. I have enjoyed interactions with young professionals and students over the years, and I have made several long-lasting friendships that have kept me focused on continuing to share my experiences and lessons learned as a professional geoscientist.

I also have enjoyed all the exchanges with people from other AAPG Regions and our collaborative efforts toward making the AAPG a truly global organization.

I would like to express my gratitude to the AAPG staff, particularly to the LACR office, for their help during these years.

Finally, I would like to thank my wife, Nancy, and my two daughters for their unconditional support and understanding when I have had to use personal time to work for the benefit of AAPG activities.

Thanks again for this recognition which is for all the members of the Latin America and Caribbean Region.

Victor Vega

ZHAOXI ZUO

Wallace E. Pratt Memorial Award

JIAN CAO

Wallace E. Pratt Memorial Award

XIAOLIN WANG

Wallace E. Pratt Memorial Award

BING LUO

Wallace E. Pratt Memorial Award

YUAN ZHONG

Wallace E. Pratt Memorial Award

KUNYU LI

Wallace E. Pratt Memorial Award

KAI HU

Wallace E. Pratt Memorial Award

The Wallace E. Pratt Memorial Award for the best paper published in the *AAPG Bulletin* is presented to Zhaoxi Zuo, Jian Cao, Xiaolin Wang, Bing Luo, Yuan Zhong, Kunyu Li, and Kai Hu for "Characterizing maturity of reservoir pyrobitumen with strong anisotropy: A calibration between reflectance and laser Raman spectral parameters" (*AAPG Bulletin*, v. 106, no. 7, p. 1373-1401).

Pyrobitumen reflectance is a proxy for evaluating the thermal maturity of ancient sedimentary rocks, particularly where vitrinite is absent. However, due to the strong optical anisotropy of pyrobitumen, it is challenging to accurately characterize the maturity. In this study, we investigated the petrography and spectroscopy of pyrobitumen in the Sinian (Neoproterozoic) Dengying Formation in the Sichuan Basin, China. Based on differences in the morphology and texture of pyrobitumen, maturity characterization parameters were optimized. Pyrobitumen in the Dengying Formation can be divided into six types of single forms and five types of multiple forms based on optical texture. The average reflectance of isotropic to slightly and finely mosaic-textured pyrobitumen, and that of dark areas of irregularly mosaic-, spherical-, flow-, and fibrous-textured pyrobitumen is relatively stable and correlates well with Raman spectral features. In contrast, the average reflectance of bright areas of irregularly mosaic-, spherical-, flow-, and fibrous-textured pyrobitumen is variable and anomalously high, and does not match the Raman spectral features. The difference in textures and reflectance is controlled by nanoscale deformation of the pyrobitumen surface, which may reflect differences in the composition of the residual pyrobitumen and its viscosity, suggesting variable organic matter precursors, secondary modification, and physical conditions of oil and pyrobitumen formation. The Raman spectra of all of the optical textures of pyrobitumen can overcome strong optical anisotropy and can be used as a thermal proxy. The Raman band separation, instead of the reflectance of pyrobitumen, is a good thermal proxy in all cases because the optical texture of pyrobitumen has little effect on Raman parameters but has a great influence on reflectance (thereby rendering the reflectance of the bright area inaccurate). The reflectance of the dark area of pyrobitumen is also a good proxy and corresponds well with Raman parameters. In contrast, the reflectance of the bright area of pyrobitumen is distorted due to graphitization and thus cannot serve as a maturity proxy. The Raman spectra have the greatest application in overmature,

exhumed conventional oil reservoirs and overmature unconventional reservoirs.

Editor's Note: Photographs were not available for all of the recipients.

AHMAD RAMDANI

J. C. "Cam" Sproule Memorial Award

The J. C. "Cam" Sproule Memorial Award, presented to the author(s), age 35 or younger at the time of submittal, in recognition of the best paper published by the Association or any affiliated society, division, or section, is awarded to Ahmad Ramdani for "Assessing and processing three-dimensional photogrammetry, sedimentology, and geophysical data to build high-fidelity reservoir models based on carbonate outcrop analogues" (*AAPG Bulletin*, v. 106, no. 10, p. 1975-2011).

A three-dimensional (3-D) outcrop depositional facies investigation of carbonate reservoir analogues requires a comprehensive integration of outcrop with "behind-the-outcrop" geophysical data. This study proposes a comprehensive methodology to assess, process, and synthesize photogrammetry, sedimentology, ground-penetrating radar (GPR), and seismic data sets based on the outcrop depositional facies framework. The methodology was tested and applied to map the 3-D morphology of the stromatoporoid-coral buildups in the Upper Jurassic Hanifa Formation reservoir analogue at Wadi Birk, Saudi Arabia. Data sets acquired include 1.2 km^2 drone imageries; measured sections; 8-km-long networks of two-dimensional (2-D) GPR, three grids of 3-D GPR (60 × 50 m; 50 × 20 m; 55 × 40 m); 640-m-long 2-D seismic profile; and a 50-m-long core. We constructed a digital outcrop model (DOM) from drone imageries and calibrated it with measured sections. We measured dielectric permittivity, acoustic velocity, and bulk density to assess the geophysical properties of the target facies. We used DOM-based GPR and seismic models to assess the geophysical responses and formulate processing flows that accentuate anomalies from the stromatoporoid-coral facies. We used the proposed methodology to measure the 3-D morphology of the stromatoporoid-coral buildups quantitatively. The buildups are 3-D pseudo-ellipsoidal with an average long and short axis length of ~36 and ~11 m, respectively. The average thickness of the buildups is ~2.6 m with ~N335E orientation. We used these statistical measurements to construct an outcrop-based porosity model of the Hanifa reservoir analogue that honors the observed 3-D morphology of the stromatoporoid-coral facies.

The co-authors of this paper are Pankaj Khanna, Gaurav Siddharth Gairola, Sherif Hanafy, and Volker Vahrenkamp.

CHARLES A. STERNBACH

Robert H. Dott, Sr. Memorial Award

ROBERT K. MERRILL

Robert H. Dott, Sr. Memorial Award

JOHN C. DOLSON

Robert H. Dott, Sr. Memorial Award

The Robert H. Dott, Sr. Memorial Award is presented to honor and reward the author/editor of the best special publication dealing with geology published by the Association. This year's award is presented to Charles A. Sternbach, Robert K. Merrill, and John C. Dolson for Memoir 125: Giant Fields of othe Decade: 2010–2020.

Giant oil and gas fields are the ultimate exploration prize. They bring a critical mass of resources to innovate on a large economy of scale. This innovation benefits the giant field that caused it and fields of all sizes that can also benefit from the new technology and infrastructure. On an even larger scale, it is with super basins. A super basin is a petroleum-rich sedimentary basin with more than 5 billion barrels produced, 5 billion barrels yet to produce, many pays and plays, one or more major petroleum systems, and substantial infrastructure. Super basins generally are basins with long exploration histories. Although there are about 1000 petroleum-bearing basins, 23 onshore and 8 offshore super basins dominate established world petroleum resources.

There are about 1193 giant fields, but these giants are far from evenly distributed. About 60% of giant fields occur in about 5% of the sedimentary basins. Super basins are fertile grounds for giant fields because they contain necessary and fundamental geological components: at least one major source rock and petroleum systems; abundant reservoirs (conventional, unconventional, and hybrid); favorable trapping mechanisms; a seal and tectonic history favorable to migration and preservation; and favorable "above-ground" issues advantageous to exploration and commercial investment.

Studying super basins allows geoscientists to compare working play types, giant fields' geology, and practice discovery thinking. For example, looking at the trap types of giant fields in the Arabian Super Basin, 95% of the fields (to date) are structural traps. A geoscientist might ask, "Where are the stratigraphic traps, and how might they be found?" and "Could a giant field analogous to East Texas be found in the Arabian Super Basin?"

In short, giant fields matter. Giants focus exploration resources for the entire exploration ecosystem, and they can bring prosperity on a local and global scale to the human population. "Giant oil and gas discoveries are major economic events. They can trigger significant changes in a country's economic circumstances, representing a jump in the level of natural wealth, spurring new investment into the country and the oil sector." Geoscientists have a key role to play to deliver these resources and the prosperity that they can bring.

In addition to covering global trends, economics, and reserve growth within fields, this volume contains several fields and play-specific chapters.

HARPRETT KAUR

SEG/AAPG Best Paper in *Interpretation* Journal Award

NAM PHAM

SEG/AAPG Best Paper in *Interpretation* Journal Award

SERGEY FOMEL

SEG/AAPG Best Paper in *Interpretation* Journal Award

ZHICHENG GENG

SEG/AAPG Best Paper in *Interpretation* Journal Award

LUKE DECKER

SEG/AAPG Best Paper in *Interpretation* Journal Award

BEN GREMILLION

SEG/AAPG Best Paper in *Interpretation* Journal Award

MICHAEL JERVIS

SEG/AAPG Best Paper in *Interpretation* Journal Award

RAY ABMA

SEG/AAPG Best Paper in Interpretation Journal Award

SHUANG GAO

SEG/AAPG Best Paper in Interpretation Journal Award

Harpreet Kaur, Nam Pham, Sergey Fomel, Zhicheng Geng, Luke Decker, Ben Gremillion, Michael Jervis, Ray Abma, and Shuang Gao have been recognized for their authorship of the best paper published in the SEG/AAPG *Interpretation* journal titled "A deep learning framework for seismic facies classification" (*Interpretation*, v. 11, no. 2, p. T107–T116).

The authors have proposed a deep neural network-based framework for seismic facies classification. They implement two different neural networks based on the architectures of DeepLabv3+ and generative adversarial network for segmentation and compare the mapping results from seismic reflection data to lithologic facies. DeepLabv3+ predictions have sharper boundaries between the predicted facies whereas generative adversarial network output has a better continuity of predicted facies. They incorporate uncertainty analysis into the workflow using a Bayesian framework. The proposed approach consisting of joint analysis of predicted facies from multiple networks along with uncertainty in prediction accelerates the interpretation process by reducing the need for human intervention and also lessens individual biases that an interpreter may bring. The authors determine the effectiveness of the proposed algorithm by testing on field data examples, and find that the proposed workflow classifies facies accurately. This may potentially enable the development of depositional environment maps in areas of low well density.

Editor's Note: Photographs were not available for all of the recipients.

MICHAEL C. FORREST

L. Austin Weeks Memorial Medal

The L. Austin Weeks Memorial Medal is given in recognition of extraordinary philanthropy and service to advance the mission of the AAPG Foundation. The premier Foundation award honors the late L. Austin Weeks, whose philanthropic legacy set an exemplary standard. The award was established in 2008 and is the Foundation's highest award. Funding for the original award was provided through the AAPG Foundation Awards Fund. The 2024 recipient is Michael C. Forrest.

Michael C. "Mike" Forrest, a Dallas-based independent whose legendary career previously earned him AAPG's Sidney Powers Memorial Award, is an AAPG Honorary Member, has been a Trustee Associate since 2014—and in all that time, a dynamic participant in Trustee Associate activities.

Even before his connection to the AAPG Foundation, however, Forrest was a world-renowned exploration geophysicist, thanks largely to his work during a 30-plus-year career at Shell Oil.

While with Shell, Forrest was responsible for recognizing—and subsequently helping to develop—"bright-spot" technology, the first use of seismic attributes in exploration. He's been called "the father of bright spots." In the 1970s he played a major role in several 100-million-barrel Shell discoveries, and in 2018 he received AAPG's highest honor, the Sidney Powers Memorial Award.

His support of the geosciences—both in terms of volunteer service and in generous contributions to both the Society of Exploration Geophysicists and AAPG Foundations—have been just as significant.

He was, for example, a major advocate and supporter of the Geoscientists without Borders program, one of many humanitarian efforts supported by your AAPG Foundation.

Other Foundation programs that have continuously benefited from his commitment include the K-12 Education Fund, the Deana and Paul Strunk Military Veterans Scholarship Program and the Imperial Barrel Award, as well as dozens of contributions to the general fund.

"Mike's generous support reflects his deep desire to not only give back to his profession, but to help make sure that tomorrow's world includes geoscience excellence," AAPG Foundation Chair Jim McGhay said. "His impact is impressive, and an example for us all."

ROBERT J. ARDELL
Chairman's Award

Robert "Bob" Ardell, a longtime Houston-based consultant and dedicated participant with both the AAPG House of Delegates and the Foundation Trustee Associates, is this year's recipient of the Chairman's Award, given in recognition of his extraordinary contributions—monetary and service—to the Foundation.

Bob Ardell's service to the Foundation, the Trustee Associates and the AAPG House of Delegates has earned him a place among the Association's most active and passionate members.

Ardell, a Houston-based consultant since 2002, received his bachelor's degree in geology economics from Monmouth College and his master's in geology/earth science from Kansas State University.

He started his career in New Orleans with Union Oil and had a brief stint with Kerr-McGee before helping Samedan start its successful offshore exploration program. After 13 years with the company, he started a United States group for Nippon Oil, eventually becoming that company's president.

Regarding his leadership with AAPG and the Foundation, Ardell has, since 2000, been a member of the Corporation, which works closely with the Foundation Trustees in an advisory role. For the Trustee Associates, Ardell served as its secretary/treasurer in 1999-2001 and as the group's chair in 2002-2003.

He also was a member of the Foundation's Financial Campaign Committee (2005-2011), and currently serves on the Foundation Audit Committee.

In 2014 he received the Trustee Associates Service Award.

Ardell's role with the House of Delegates has been just as active, earning him important roles on numerous committees.

Through it all, his support of the Foundation has been continuous and generous, including frequent contributions to the K-12 and Distinguished Lecture programs, the Deana and Paul Strunk Military Veterans Scholarship Program, and the L. Austin Weeks Undergraduate Grants Program.

"Bob has brought excellence, thoughtful participation and questions, and camaraderie to every aspect of his connection to the Foundation," Jim McGhay, AAPG Foundation Chair, said. "We're fortunate to have him as part of our family, and we're honored to give him the recognition that he deserves."

VINCENTE LORENZ
Teacher of the Year Award

The Teacher of the Year award is given for excellence in the teaching of natural resources in Earth sciences, K-12.

The AAPG Foundation has named Vicente Lorenz as the recipient of the 2024 Teacher of the Year award.

Vincente Lorenz, praised by his peers for his skills, creativity and excellence as both a teacher and a scientist, is the 27th geoscience teacher honored by the AAPG Foundation.

Lorenz teaches earth science, meteorology, astronomy and "dual-credit" physical and historical geology for the 10th-12th grade levels at Kokomo High School in Kokomo, Indiana.

His classes have been so successful that you might say that as a teacher, he's been to the mountaintop – but that's only part of the story. He's been there literally, too, in a way that puts him in a rare category, especially for high school teachers.

He experienced the Nepal and Himalayan Trekking Expedition to Gokyo Ri, near Mount Everest, where he designed and implemented a geology curriculum that's used for his students in Kokomo.

"The key (lesson) question is to have students analyze the plate tectonic forces between India and Asia to better understand geological process that have shaped the Himalayan Mountain range," Lorenz said of that specific lesson plan.

"I … place a strong significance on the plate tectonic forces and geologic processes responsible for the formation of the Himalayan Mountain range," he added, "(and) I encourage students to think about other mountain ranges and how they formed."

Lorenz' influence on his students doesn't stop there. He also is the school's science department leader and sponsor of the Environmental Science Club, which attracts more than 30 students to its twice-a-month meetings.

Students in Lorenz' classes find themselves experiencing what some would call a holistic perspective to their geoscience education. Lorenz experienced more than rocks and vistas when the official International Baccalaureate teacher trekked to Nepal's Gokyo Ri.

The event had a profound impact on his life and teaching approach. He returned to Indiana with the intent of giving his students a global perspective and a comprehensive view of problem-solving.

"What started as an epic and incredible journey has now become nothing more than a monumental surreal memory," he wrote regarding the Nepal experience.

"The rich tapestry of interconnected societies, cultures and environments encapsulates a complex web of relationships," he continued. "As I delved into exploring these interconnected facets, I became acutely aware of the intricate interplay between individuals, communities and the world at large."

His lessons, therefore, embrace "the profound implications of globalization on local communities and ecosystems, while contrasting the educational landscapes of Nepal and the United States."

"My wish for each student … is to understand the fragility and significance of our planet – everything on our planet plays a major role," he said. "It is critical that students acknowledge differences in viewpoints and perspectives while taking a stand on their own beliefs.

"If they can keep their well-being, their children's well-being and their grandchildren's well-being at heart, we will continue to make progress in the areas of natural resources and innovation," he said.

"Inspiration, passion and motivation are my greatest classroom tools."

HENRY AGBOGUN
Inspirational Geoscience Educator Award

Henry Agbogun is the 2024 recipient of the AAPG Foundation's

Inspirational Geoscience Educator Award, awarded annually to university and college level educators who have creatively and with excellence inspired their geoscience students.

Agbogun is an assistant professor in the Department of Geosciences at Fort Hays State University, Hays, Kansas, where he teaches courses in basic, environmental and structural geology; stratigraphy; sedimentology; hydrogeochemistry; principles of geophysics; and petroleum geochemistry.

When Henry Agbogun was a boy in his native Nigeria, his love of working outdoors, hiking and the "fascination of rock outcrops" drew him to the world of geology—and for him that proved to be the beginning of a beautiful friendship.

But the connection didn't stop at the rocks.

Add to that natural dynamic the admiration and respect he had for his late father, then a teacher at a Nigerian technical school, and his father's mantra—"He who asks questions never gets lost"—and the seeds of a career in geoscience education were safely planted.

Asking questions helped inspire Agbogun to become the man he is today—and that's a gift he wants to share. The results? Geoscience students around the world benefit from both his expertise in geology and inspiration in teaching.

His students and peers call him inspirational, of course, but also exciting, creative, thorough and, importantly, effective in "equipping us with the most sought-after skills for graduate school and a career in geosciences."

Agbogun's path to Fort Hays took an international route. He received his undergraduate degree in geology at Federal University of Technology, Yola, Nigeria. He holds wo master's degrees—one in applied geophysics from Ahmadu Bello University, Zaria, Nigeria, and a second in petroleum geochemistry from Newcastle University, Newcastle upon Tyne, England. He earned a doctorate in geology from the University of New Brunswick, Fredericton, Canada.

His teaching career included stints at the University of Calgary and Athabasca University, both in Canada, before moving to Fort Hays.

In an educational world that is often criticized for being increasingly didactic and, perhaps, even pedantic, Agbogun learned to take a different approach.

He encourages his students to think for themselves, because he wants to give them something more than facts. He gives them the insight to inspiration.

"My mantra in teaching is based on a Hausa (Nigeria) proverb that says, 'He who asks questions never gets lost,'" Agbogun said. "I teach by nudging students to ask questions, which helps them to gain clarity and to elicit expatiation.

"I also follow my late father's (Chief Abel Agbogun) mantra of 'He who is tired of learning is tired of living,'" he added.

And, for good measure, his classes emphasize the relationship between geological concepts and their impacts on and with everyday life.

Agbogun's goal is to always remember what he learned about inspiration as a boy in Nigeria. It is "Impacting knowledge and eliciting an 'ah-ha' moment when students develop a grasp of concepts being taught."