AAPG Honorees, 2003

PETER R. VAIL
Sidney Powers Memorial Medal Award

When Peter Vail introduced the concepts and applications of sequence stratigraphy, the effects on stratigraphic geology and seismic interpretation were comparable to that of plate tectonics on structural geology. Pete's ideas on the unifying paradigm of eustatic cycles are probably as close to an original concept as most of us are privileged to see. Pete's worldwide experience with Exxon's exploration groups honed the concept into an immensely practical tool in hydrocarbon exploration.

Pete was born in New York City in 1930. He graduated from Dartmouth College in 1952. He attended Northwestern University from 1952 to 1956 for his M.S. degree and Ph.D. At Northwestern, he was greatly influenced by professors Larry Sloss and Bill Krumbein, with their ideas on quantified facies mapping and unconformity-bounded cratonic sequences. He began his career with Exxon in 1956 as a research geologist with the Carter Oil Company, an Exxon affiliate in Tulsa, Oklahoma. He and his lovely wife Carolyn reared a family of three children, who at first grew faster than his reputation. He relocated to Houston in 1965, at Esso Production Research Company, now ExxonMobil Upstream Research Company, and advanced to senior research scientist, the highest technical position.

In 1986, Pete was appointed the W. Maurice Ewing Professor of Oceanography at Rice University. In 1992–1993 he led studies of the sequence stratigraphy of European basins and revised and documented the eustatic cycle chart. He became professor emeritus at Rice in 2001, and still actively consults in Houston.

Pete's ideas evolved naturally from his first pioneering work on the importance of stratal surfaces in rocks as geologic time lines. He soon recognized the cyclic occurrence of bundles of strata he called sequences in well logs, seismic reflections, and outcrops. Observing that sequence boundaries appear synchronous globally, he postulated that cyclic eustatic sea level changes are major controls on stratigraphy, along with basin tectonics and sediment supply. Eustatic cycle charts, seismic facies analysis, and the accommodation model of cyclic deposition were developed as applications. In 1977, these concepts were published in AAPG Memoir 26 as the first of many articles and memoirs.

All the early stratigraphic ideas were generated in the fertile brain of Peter Vail as spin-off from mapping and stratigraphic projects. Early studies involved well logs and outcrops, one of which was a study of the famous Eocene–Miocene unconformity in the Maracaibo Basin of Venezuela. Here Pete recognized Miocene onlap and facies changes in well logs. Many of the concepts of beds and bed sets are due in great part to the ideas of C. V. (Chuck) Campbell, an early co-worker.

Vail soon recognized the potential of seismic reflection data in stratigraphic interpretation. Against the advice of his supervisors, he transferred to geophysics and began work on the significance of seismic reflection patterns. One of his major premises was that seismic reflections follow geologic time lines of detailed physical bedding surfaces, rather than massive time-transgressive formational boundaries where the strongest impedances occur. This concept challenged commonly accepted ideas, and was widely questioned in the company.

This was a very difficult time for Pete. The value of his work was not recognized, and he was ranked very low in geophysical technical appraisals. In addition, he was subject to ridicule and opposition from other geologists as well. One well-known Exxon geologist, in his ridicule, goaded the audience in a large technical meeting into howls of laughter on how the seismic reflections must bounce off the backs of fossils. Despite this opposition, Pete persevered almost single-handedly in showing the relationship of seismic reflection patterns to chronostratigraphy. This was a "Eureka!" event for Pete, because it showed that seismic data could be used for putting stratigraphy into a geologic time framework for mapping.

About 1965, Pete's work was recognized enough to establish the seismic stratigraphy research group, beginning a very fertile period of exponential growth. Worldwide cycle documentation and exploration applications were tied into Exxon's worldwide exploration of continental shelves and slopes. Seismic facies interpretation was systematized, cycle charts evolved rapidly, computer applications and mapping techniques were expanded, and biostratigraphy was improved. In 1978, the accommodation model and the concept of systems tracts allowed interpretation of sequences in well logs and outcrops as well as on seismic data. This broadening of interpretation beyond seismic data led to the name change to sequence stratigraphy.

One of Pete's strong points was his ability to lead by example and to

involve others in his group with his enthusiasm and passion. There was a strong sense of belonging and sharing among group members. At one time he supervised the structural geology section. This experience gave valuable insight into the close tie between stratigraphy and structure.

In 1977, AAPG Memoir 26 was published, marking the first outside publication on seismic stratigraphy. Exxon's contribution to this publication was released only after all exploration managers agreed that seismic stratigraphy had gone about as far as it could go in Exxon. Almost immediately after Memoir 26 was published, these same managers closed the door on outside publication for a long time after they began getting phone calls from other companies complimenting Exxon's generosity in releasing these concepts.

In the natural course of his work, Pete has received many honors, and has held many important roles on a variety of industry, government, and academic steering committees. He has served on the U.S. Department of Energy Committee on Research Drilling, committees of the National Academy of Sciences, and the American Commission on Stratigraphic Nomenclature. He has been honored by many industry-based societies, including the Virgil Kauffman Gold Medal of the Society of Exploration Geophysicists (SEG), the AAPG President's Award and Matson Award for best papers, and the Individual Achievement Award from the Offshore Technology Conference. More recently he was awarded the Twenhofel Medal by the Society of Sedimentary Geology (SEPM), and has been named Honorary Member in the AAPG and SEG. Universities both at home and abroad have honored him by recognizing his work. His extensive publications and scientific citations indicate the significance of his research.

Above all, Pete's greatest characteristics still remain his integrity, his dedication to his family, and his faithfulness to friends, colleagues, and students. I consider it a great honor to have been part of his life.

Citation—To Peter R. Vail, who pioneered original concepts of sequence stratigraphy that brought the worlds of stratigraphic geology and seismic interpretation together. He developed practical methodologies and economic applications of sequence stratigraphy for industry and academia.

Robert M. Mitchum

Response

First I want to thank the AAPG committees and members who made it possible for me to receive this prestigious award. I also want to acknowledge and thank my colleagues who worked with me developing the concept and applications of sequence stratigraphy.

The roots of sequence stratigraphy started with a well-log project in which John Sangree, Chuck Campbell, and I correlated what we then called marker beds. We developed a series of stratal patterns, including offlap, downlap, and onlap. I showed these patterns to a seismic interpreter named Paul Tucker, who told me one could see all these patterns on seismic data. He invited me to his office to see for myself. I was impressed and decided I should join the geophysical research department.

To everyone's surprise, in the early 1960s I did manage to transfer, but I found I had joined a group of theoretical mathematicians and geophysicists. My group leader told me I had no future with the company. I just did not know enough mathematics. Fortunately, I had a good friend in the department named Frank Branisa, who labored long and diligently teaching me frequency spectra, bandwidth, and deconvolution.

During this period in the Geophysical Research Department I learned of an Exxon well that was drilled on a structure basinward of a well that drilled a thick sand. The reflection that coincided with the sand top was traced basinward across the structure by the Exxon interpreter, where he predicted the sand to be present, but the well only found shale and silt and no sand. Why did this happen? No one seemed to know. I thought this would be a great project for me. Fortunately, management agreed.

After receiving the logs and seismic data, I decided the only way to solve this problem was to do the paleontology for the reflection interval in both wells. I managed to find Lou Stover, an Exxon paleontologist, who was available to work on the project. He found that the sand in the landward well was the same age as the correlative silt and shale on the basinward well with the structure. To test the idea that the reflection was following the geologic time lines and not the top of the thick sand, I contacted my friend, Frank Branisa, to see if we could build an impedance analog model and simulate a seismic section from it. Exxon Research had an antilog equilizer machine that would suit the project just fine. I built a geological impedance cross section between the two wells. Frank produced a synthetic seismic section using a pulse that matched the cycle breadth on the seismic section. After this we made several more synthetic sections for different areas where we knew there were major facies changes from our early well-log correlation work. Two examples are published in AAPG Memoir 26 (C. E. Payton, ed., 1977, Seismic Stratigraphy—Applications to Hydrocarbon Exploration, part 5, p. 99–116). All the synthetic examples showed a reflection with a high amplitude on top of the sand. The high amplitude stepped down or up onto other reflections following the sand top as it changed facies. The amplitude of the original reflection decreased as it crossed the facies change from sand to shale and silt, supporting the concept that seismic reflections follow the time synchronous stratal or bedding surfaces rather than the top of the sand.

Following this discovery I gave many talks, where I was commonly ridiculed. One senior geologist accused me of proposing that the reflections were bouncing off the backs of fossils. Another suggested that I was telling him that what he was teaching his students was wrong. Time and experience prevailed and now the concept is well accepted.

In the early 1960s, Exxon Research established a seismic stratigraphy section in the Geophysical Department with Mandy Touring as group leader. Other members were Howard Yorston, an experienced seismic interpreter; John Sangree from the reservoir geology group; Mike Widmier, geologist from Exxon operations;

Bob Wilbur, research geologist; Janet Teagarten, computer programmer who later became Janet Wilbur; and me. This diversified group worked well together until regretfully, Mandy Touring became ill. I was then appointed section supervisor.

Our approach to research was to hold periodic meetings where the guidelines mainly proposed by John Sangree were to suggest worthwhile research ideas, assuming that we had unlimited funds. We would then discuss these ideas among ourselves and decide who would work on what. I was especially interested in stratal patterns we had identified in our early well-log correlation work so I continued to work on this project on high-quality seismic data from around the world. What I observed first was that the widespread surfaces characterized by onlap were the most logical way to subdivide the section into major genetic intervals. As I observed these onlap surfaces and dated them with the paleo information, I found that sequences of the same ages tended to have the same onlap pattern in most basins around the world. To convey this observation, I drew a series of onlap charts that we converted into eustatic sea level charts. While working on a project in the North Sea, I also observed genetic sedimentary packages we came to call sequences.

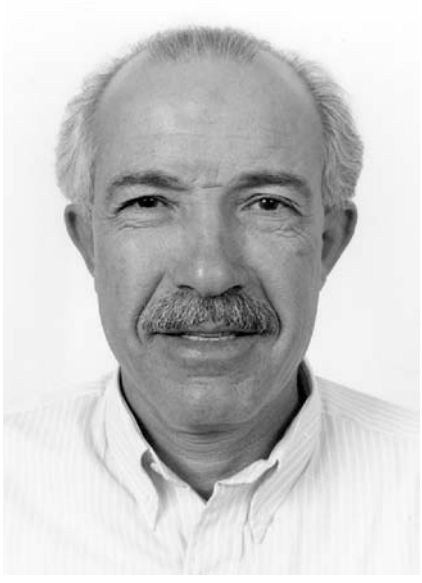
Bob Mitchum returned from a one-year assignment in Midland, Texas, and upon his return to Exxon Research he joined our group and became involved in many of our major interpretation projects before becoming the major writer of AAPG Memoir 26. In the mid-1970s, Jerry Baum, working on a thesis studying the Tertiary of the Atlantic coastal plain, recognized similar age sequences in his thesis area. When he graduated he applied and received a position with our group. In 1980 Rick Sarg joined our group. We then moved into a new building and our seismic stratigraphy section became the seismic interpretation section with Bob Todd as supervisor. At this time I became a technical advisor and worked on a variety of projects. On one project I worked with Jan Hardenbol and others to build the global cycle charts.

Others in our group worked on other sequence stratigraphic projects. Seismic cycle configuration, called seismic facies, was interpreted in terms of sedimentary depositional units. Depositional sequences were recognized as sedimentary responses to cycles of relative falls and rises of sea level. Biostratigraphy was refined to give dates and depositional environments on a global basis. Carlton Johns joined our group with his computer applications to geology team. With these new people and skills, we concentrated on 3-D simulations of geology in addition to our seismic stratigraphy research.

In 1986 after 30 years with Exxon Research, Rice University offered me a position as the Maurice Ewing Professor. This started my second career, one that I enjoyed greatly.

After 15 years with Rice I started my third career, retirement, with a wonderful kick-off party called the Vail Fest sponsored by Rice and Exxon. I received many wonderful compliments so my kids responded by saying, "If you're so smart why don't you find us some oil?" That sounded good to me, so besides consulting I decided to invest in some oil and gas wells. So far I've been on a learning curve. I've learned that just because you find some oil or gas it's not a discovery until you make money. So far four of five wells have found oil or gas and I do get some money from three of them. The fourth one is supposed to be a big money maker. I believe it is, but they are putting it on production now so it will take a little more time before I know for sure.

Peter R. Vail



MAHMOUD ABDUL-BAQI

Honorary Member

Mahmoud Abdul-Baqi has distinguished himself as a leader, explorer of oil and gas, enthusiastic supporter of the geology profession, and compassionate human being.

Mahmoud was born in 1944 in Acre, Palestine. He and his family were displaced in 1948 and spent a couple of years in Lebanon, a couple of years in Syria, and then settled in Jordan where he completed his secondary school. He was awarded a scholarship to the University of Baghdad and graduated in 1966, specializing in geology with a minor in geophysics.

He initially taught geology in Kuwait for three years, followed by two years as an engineering geologist on a dam project in Jordan. In 1971, Mahmoud was hired by the Arabian American Oil Company (Aramco), which subsequently became the Saudi Arabian Oil Company (Saudi Aramco), and started his illustrious 32-year career with the largest oil company in the world. He worked in Saudi Arabia and had stints in London and the United States. He rose through the ranks, going through well-site geology, reservoir characterization, and field development before focusing on prospect generation. In 1986 he became general manager for the Exploration Organization, responsible for exploration and the geoscience of the world's largest reservoirs. In 1991,

the Board elected him to his current position as vice president for the Exploration Organization. He is a member of Saudi Aramco's Executive Advisory Committee, and is on the Board of Directors of the Arabian Drilling Company.

In 1982 he completed a special management program at Georgetown Law Center in Washington DC. In 1984 he completed "Managing the Enterprise," a special program for executives held at Columbia University in New York.

After the incorporation of Saudi Aramco as the national oil company in 1987, Mahmoud's organization, previously confined to Aramco's retained areas, was charged with evaluating the hydrocarbon potential throughout the Kingdom. This started an exciting period that so far has resulted in the discovery of 36 additional oil and gas fields during the past 15 years. Under Mahmoud's leadership, the exploration program led initially to the discovery of the Hawtah trend of Arabian super light crude in Central Saudi Arabia. The play was Permian carboniferous sandstone in low-relief structure and stratigraphic traps. In total, 18 Central Arabian fields were discovered in succession between 1989 and 1997. The focus of exploration shifted to the coastal area of the Red Sea, where four new fields in Miocene sandstones were discovered, and the Northwestern region of the Kingdom, where a single gas field was discovered in Ordovician sandstones.

In 1994, Saudi Aramco started an aggressive exploration program for deep nonassociated gas under Mahmoud's direction to meet the increasing domestic demand for gas. The first discovery in 1994 was a play set up by the fault and unconformity truncation of Devonian sandstones along the eastern flank of the Giant Ghawar field. This was followed by the discovery of gas and oil in 15 structures between 1997 and 2002. Throughout these years, Mahmoud was eager to discuss with his explorationists the merits and risks of each exploration prospect. The Saudi Aramco exploration successes reflect, to a significant measure, Mahmoud's exploration acumen. The success of the exploration effort is also measured by the effective replacement of Saudi Aramco's substantial oil production of about 3 billion barrels/year and the addition of more than 49 tcf of nonassociated gas reserves since the program started in 1994.

To meet the challenge of exploring the vast areas of Saudi Arabia and supporting the development of its giant oil reserves, Mahmoud built the modest group of 1986 into a world-class exploration organization. He paid particular attention to human assets and fostered the hiring and training of Saudi nationals in geology and geophysics. From less than a dozen in the 1970s, Saudi geoscientists are currently 60% of the company's staff of 430 geoscientists. He also provided them with the best resources that money could buy, from the latest in computing hardware to advanced processing, interpretation, and GIS software. He has supported research and development in industry and academic consortia, and increasingly within Saudi Aramco.

Mahmoud realized that exploration is a creative group activity, and therefore in 1992 launched the Creativity and Innovation initiative with the assistance of the Center for Creative Leadership. The outcome was the creation of multidisciplinary teams, and an annual awards program for exceptional performance. This initiative primed the Exploration Organization for the breakthroughs it made in the 1990s, and was an early precursor to the corporate-wide continuing excellence program of today. This was followed by Total Quality Management (TQM) programs for the acquisition and processing of three-dimensional seismic data.

Mahmoud has been a long-time supporter of international and local geoscience organizations. He is a founding member of the Dhahran Geoscience Society (1987). Mahmoud realized that the Arabian Gulf region, which contains most of the world's hydrocarbon reserves, needed to have a dedicated geoscience conference. He initiated and was the chairman of the first GEO conference, held in 1994, which has subsequently become an established biannual event with AAPG among its sponsors. He has been a member of AAPG since 1983 and has presented at several of its meetings. He served on the AAPG Advisory Council, 1999–2002, and was the first president of the Middle East Region when it was established in 1999. He is also a member of the Society of Petroleum Engineers and Society of Exploration Geophysicists.

Mahmoud is highly regarded by his colleagues and subordinates, not only for his integrity, leadership, and hard work, but also for his compassion and support. His office has always been open to his subordinates regardless of rank, and he listens to their problems and lends support. His strong leadership has engendered among his subordinates a strong sense of loyalty. Mahmoud is an excellent communicator: he is an effective listener and treats everyone with trust and respect. When he speaks, he is clear about his expectations and provides honest yet sensitive feedback. This is important in a multicultural company that includes 57 nationalities.

Mahmoud is married to Abiyya, his wife of 29 years, and they have raised two sons and a daughter. The eldest son, Mustafa, just graduated with a doctorate in law and is preparing for his bar exam in North Carolina. The middle son, Jareer, completed a degree in finance and is employed in Dhahran. The youngest daughter, Dana, is in the fourth year of her architecture program. Mahmoud is an active exerciser who enjoys swimming, jogging, and yoga. His other pastime activities include travel, reading, theater, and helping to run the Homeowners Association of his small community.

Throughout it all,
Mahmoud Abdul-Baqi has been a model of integrity, humanity, quality, and collaboration for his management and technical team; a beacon leading us toward becoming the world-class organization that we are today.

Citation—To Mahmoud Abdul-Baqi, in recognition of your outstanding leadership and success in exploration for oil and gas, and your dedicated service to the profession of geology.

Abdulla A. Al-Naim

Response

I was so pleased to be named as president of the newly formed Middle

East Region of the AAPG in 1999 that I did not think anything better could happen. What an honor! To be recognized by one's peers is one of the greatest fulfillments in life. I am humbled and profoundly honored to be named an Honorary Member of the AAPG. Being included among the distinguished geologists to have received this award is something I am grateful for.

On this occasion, I would like to recognize those individuals that have become so much a part of who and what I am.

My father, who passed away in 1970, had a very strong influence on me since I was able to observe him. I saw in him the role model of integrity and work ethics and from him I learned the habits of hard work and perseverance. When I was in my teens, a friend of the family translated a book on the Moho Deep Drilling Project from English to Arabic and presented me with a copy of his book. I was fascinated with those people who are able to "see below the surface of the earth" and draw conclusions on things that they cannot directly observe. After finishing the book, I knew that I was going to pursue geology in college if I could.

I was extremely happy when I was awarded a scholarship to study geology at Baghdad University: first because it was geology, and second because I could not afford to go to school at that time if I did not receive a scholarship. During my years in Baghdad, professor Bolton unveiled the secrets of rock outcrops to me. Accompanying him on field trips, both formally and informally, made me build a firm basis for my future career. I was lucky to be chosen for a summer student assignment with Iraq Petroleum Company (the old IPC in Kirkuk field). After that assignment, I knew that petroleum geology would be my future career.

I graduated in 1966, and the job market for geologists in the oil industry was no better in the Middle East than anywhere else in the world. I had to spend three years teaching and two years in engineering geology waiting on the start of the boom of the early 1970s to get my job in the oil industry, but I learned a lot from my teaching career. I realized that working with people is something that I enjoy and I am good at. My two years in engineering geology prepared me well for dealing with those petroleum engineers when the time came.

Soon after I arrived in Dhahran I met Abiyya, my wife of 29 years now, and from that time until now she has been the pillar of strength that I lean on when navigating challenging passages. Abiyya worked for the same company for 25 years during which time it was a joy, but also a challenge, with both of us working fulltime, to raise our two sons and daughter. I know I could not have made it without Abiyya.

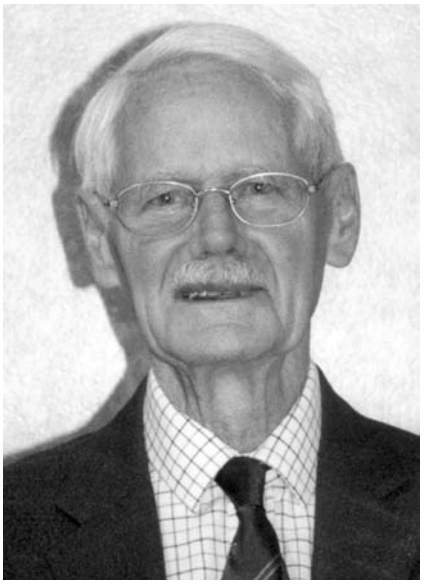
I spent my entire petroleum career in the same prolific basin, the Arabian basin, with the same great company, Saudi Aramco. In the first few months Jim Kline helped hold my hand until I knew my way around those drilling rigs. It was great fun and very rewarding to be part of the biggest oil and gas field development effort ever accomplished by our industry, and then part of an ambitious and challenging exploration program. If I were given the choice, I would not hesitate to do it all over again.

Then came the people challenge. With moving up the executive ladder, I realized that working with people is something that I enjoy, but it can sometimes also be harder than working with those rocks. I learned a great deal from those interactions, which broadened my horizons. I believe there are a lot of things that a manager can bring to his workplace from his or her home experience and vice versa. Working in a company that employs people from 57 different nationalities is a great experience that I was lucky to be part of. Developing people for our Exploration Organization is a task that I spent a lot of time on, and I enjoyed every minute of it.

In 1983 I got involved with the AAPG, and helped establish our own local Geoscience Society in Dhahran in 1987. Here I would like to recognize Abdulla Al Naim, Ibrahim Al Ghamdi, and AbdulKader Al Afifi who helped me to further the AAPG presence in our area. I am happy to say that Abdulla Al Naim is the president-elect of the Middle East Region, Ibrahim Al Ghamdi is the chair of the International Regions Committee, and AbdulKader Al Afifi is serving on the Advisory Council. This would not be complete without the mention of the start-up of the GEO Conference in 1994, which is now well established as the Arabian Gulf's premier geoscience conference and exhibit, and here I have to recognize Ibrahim Al Jallal for working hard with me to put together the first one despite all the difficulties. During my years on the AAPG Advisory Council and as Middle East president, I worked toward the "internationalization" of the AAPG, which I believe will be good for the international petroleum industry, but more importantly, good for the future of our Association. Here I have to recognize Pinar Yilmaz, Ray Thomasson, and Robbie Gries, all of whom realized the importance of the international arena to the AAPG and are working hard to enhance the presence of the AAPG internationally.

Last but not least I would like to thank every person in Saudi Aramco's Exploration Organization past and present for helping me with all of the achievements that are included in my biography. It is a team effort and without all of them it could not have happened.

Mahmoud Abdul-Baqi



KENNETH W. GLENNIE

Honorary Member

After graduating from Edinburgh University, Ken Glennie spent more than 30 years working for Shell in different parts of the world, and has been geologically active during his 16 years of "retirement." His publications have advanced our understanding of both Quaternary and Permian deserts, and have influenced hydrocarbon exploration in Oman and the North Sea. As editor and contributor to *The Petroleum Geology of the North Sea* (the North Sea bible!), which went through four editions from 1984 to 1998, his name is well known to all North Sea explorers.

Joining Shell International in The Hague in 1954, Ken served in New Zealand from 1955 to 1958, mostly in North Island. He then transferred to Shell Canada in Edmonton, from where he led field parties mapping the basic geology in the Canadian Arctic, both sides of the Mackenzie River, in the summer of 1959, and up to the Arctic coast between the Richardson Mountains and the Alaska border in 1961. The intervening summer was spent mapping the Rocky Mountains of northeast British Columbia bounded by the Sikanni Chief and Muskwa rivers, the Rocky Mountain Divide and the Alaska Highway. His wife, Margaret, and two children were in New Zealand and Canada with him. On returning to The Hague early in 1962, he was told that his next job would be "roving geology" in Nepal, where he would spend the next winter studying the Tertiary Siwaliks in the Himalayan foothills accompanied by Martin Ziegler, the youngest of the three Ziegler geologist brothers. With virtually no roads, most travel within Nepal was by foot, so taking the family was out of the question. A home base was set up in Edinburgh.

Returning to The Hague, Ken was assigned to Shell Research to take over the turbidite research group. Before beginning, however, the implications of the giant size of Shell's Groningen gas field had been discussed; the reservoir might be desert sand, but virtually nothing was known within Shell about desert sediments or how they were recognized in the subsurface. When Ken reported for duty he was told that the turbidite budget had been cancelled and the money transferred to deserts, and as he was appointed the "desert expert;" he had better learn fast. In essence, he was told, "Find out what makes deserts tick." This was the start of two years of reconnaissance desert geology in Libya, the Thar Desert of India, the Emirates, and Oman, followed by Permian and Triassic sequences in England and southern Scotland, leading to the publication in 1970 of the book *Desert Sedimentary Environments*.

From 1966 to 1968 Ken led a team mapping the geology of the Oman Mountains by field calibration of a rapidly made photogeological map. With no roads in the mountains, access to good outcrops was slow and the effective daily working time short. At the end of the first field season, Ken told his bosses in The Hague that at the current rate of progress it would take another 4–5 years to finish the job, but with helicopter support his team could complete field work in another 6-month season. He got his helicopter plus another young geologist and finished the job on time. Working up the results took another three years, Ken completing the job as, one-by-one, the other members of his team were reassigned to tasks elsewhere. Before complete disbandment, however, most of the team undertook reconnaissance geology following the same structural trend through Iran in the autumn of 1968, and in Turkey in the late summer of 1969.

In 1971 Ken was an AAPG Distinguished Lecturer, talking on the Permian Rotliegende of northwest Europe. This was followed by diverse lectures at different Shell offices in the United States. In 1972 he transferred to Shell UK, later taking responsibility for the southern North Sea. As this area was almost inactive, he was given several regional assignments to improve Shell's appreciation of their part of the continental shelf, which later proved to be invaluable.

In 1981 he returned to The Hague. Expecting to retire from Shell in The Hague in June 1985, he was invited instead to return to Shell UK to become technical chairman of the Third (Barbican) Conference of North West Europe held in 1986. In 1980 Ken was invited to join a group that was to find ways of providing continuing education for professionals in smaller oil companies. To this end he suggested to the Joint Association for Petroleum Exploration Courses (JAPEC) a course on the Petroleum Geology of the North Sea; he was asked to organize it and ran the course annually (in the early years twice annually) from 1981 to 2000.

Ken finally retired to Ballater, Aberdeenshire, in the summer of 1987. He made contact with Aberdeen University by attending meetings of the Aberdeen Geological Society, which were held in the Geology Department. In 1990, Ken received a phone call from Terry Adams, the general manager of ADCO in Abu Dhabi. Would he fly out to give a one-hour lecture on the Oman Mountains? After a field trip with Ken in the desert, Terry proposed that two Ph.D. studentships to study deserts should be funded by Shell and BP with full logistical support from ADCO. Shell UK agreed to fund one student, but BP turned down a request to fund the other, which was then taken up by NAM in Holland. Two excellent students were eventually awarded their Ph.D.s, but to supervise them Ken had to become an honorary lecturer in Aberdeen's Geology Department; this was elevated to an honorary professorship in 1996.

Terry's invitation led to several desert trips in both the Emirates and Oman, to a closer contact with Al Ain (Emirates) and Sultan Qaboos (Oman) universities, and to being co-convenor of a very successful 1995 conference in Al Ain on Quaternary Deserts and Climatic Change, for which he led both pre- and post-conference field trips.

Ken remains active in sedimentary research, both field and laboratory based, and continues to teach professional and student courses. He is a highly valued asset in the University of Aberdeen and in the broader geological community.

C*itation*—To Kenneth W. Glennie, global explorationist with Shell International, influential researcher, educationalist, and publisher, in particular on aeolian sedimentology, hydrocarbon provinces and the geology of Oman.

Andrew Hurst

Response

Not many British geologists receive awards from the AAPG, so it is with a greatly added sense of appreciation that I accept this great honor. Thank you AAPG. Thank you also Andy Hurst for being my biographer.

Geology is my hobby, and for much of my life I was paid for enjoying it. Looking back on my career, I often have a feeling of "What if …?". I am sure that these thoughts must apply to many if not most of us. The first "What if" occurred at the age of seven when my father died as a result of wounds received in World War I. My brother and I then received an excellent free education at a boarding school for the sons and daughters of deceased commercial travelers. What if my father had not subscribed to the Commercial Travellers' Association? At school, I thought that I would become a civil engineer. A friend suggested that I teach myself geology and get it out of the way before university (had to teach myself in those war years as any member of staff who might have taught me was in the forces). I got hold of some books and became so fascinated that I decided once King and Country had dispensed with my services, it was geology for me.

My mother died when I was in Libya, so after leaving the army I lived with an uncle in Edinburgh and studied at Edinburgh University instead of in England, where my mother had been living. Just before graduation, I heard that Shell was offering funding for a postgraduate degree. At 27 I was considered too old for a Ph.D., but they would fund me for an M.Sc degree. At the time, no such degree existed in a Scottish university, and I wanted to develop a project at Edinburgh that I had begun during mapping while earning my B.Sc. degree. While writing up my report for Shell, the Scottish M.Sc. degree was instituted, and I was allowed to postdate my report as a thesis by research. Thus, I became the first person in Scotland to receive such a degree. It is nice to be unique, but what if there had been no Shell funding or I had studied in England?

I followed many courses on joining Shell, and then had fascinating fieldwork in New Zealand, the Canadian Arctic and the Rockies. There, late in the season in 1960 as we were landing at our campsite beside Trimble Lake and six inches from the ground, one of those rotating wings flew off, cutting three more helicopter pads through the undergrowth in front of us. The other blade went into full pitch and ripped out the transmission mast, the tip of the blade slicing through both gas tanks as it took off aft, and we were on fire. Had we been higher off the ground…? I had a replacement helicopter the next day.

I returned to Europe in 1962 and, after a winter walking in Nepal and getting paid for it, I was transferred into Shell Research to study modern deserts as an aid to interpreting Groningen's Permian reservoir rocks. I think this was the real start on my road to receiving an AAPG award, but what if someone else had been given the task? On the grounds that within 2–3 years everyone would know all about deserts, I was allowed to publish a slightly expanded version of my desert report. In the meantime, I was asked to lead a team mapping the geology of the Oman Mountains. This resulted from a field trip by Rudi Beck, Shell's head of exploration, to see the newly discovered Fahud and Natih oil fields. He realized that they lay within close proximity of the "Steinmann Trinity" (serpentinite, pillow lavas, and radiolarian chert). If the Steinmann Trinity was discovered anywhere else in the world, would that mean that oil was nearby? Although the answer was no, we had a fascinating time unraveling the complex geology, which we now know was related to plate tectonics. We demonstrated that there was unlikely to be any oil within the mountains, so were told to publish our results. What if I had been too busy with my desert report to be considered for Oman?

Preparation for my 1971 AAPG Distinguished Lecturer tour made me realize that my desert reports were being applied by Shell to North Sea exploration. However, good news does not travel fast; after a 1972 lecture in London explaining the Rotliegende, two geologists from smaller companies came up and said, "Thank God for that, we had no idea what we were seeing in the cores." A transfer to Shell UK in 1972 brought me back into contact with the Rotliegende and to some company requests to prepare papers for conferences. I was becoming known, and I thank Shell for allowing me, within broad guidelines, a remarkable freedom of action when working for them. The late 1984 invitation to return to Shell UK and become technical chairman of a major conference on the Petroleum Geology of North West Europe ensured that I kept my hand in after official retirement from Shell.

In 1980, Bob Stoneley formed JAPEC to provide petroleum exploration courses for the geologists of smaller companies. If I had not been asked to represent Shell at the inaugural meeting, I would not have presented the course on the Petroleum Geology of the North Sea annually for 20 years to a total of more than 1500 petroleum geologists and academics.

Finally, after retirement, the phone call from Abu Dhabi requesting a talk on the Oman Mountains brought me back into active desert research, and into closer contact with Aberdeen University as the co-supervisor of Ph.D. students. Maybe my geological career was largely the result of serendipity. My

main regret is that my wife Margaret did not live to know of my award.

Kenneth W. Glennie

WALTER P. GRÜN

Honorary Member

Vienna, the site of the 1997 AAPG International Conference, represents the old-world charm of Europe. The Viennese people are charming, helpful, companionable yet strict, loyal, demanding but also giving, dependable, very serious but with a great—albeit subtle—sense of humor. Walter Grün, born in 1940 in Vienna, epitomizes these characteristics.

Walter Grün became a geologist because, I am told, he failed all post-high school technical-aptitude tests and therefore had to continue his education at the university. He immediately discovered his organizational talents of motivating fellow students, organizing field trips, and especially organizing post-trip social activities. He concentrated his research on the geology of wine areas and is considered one of the foremost authorities on wine tasting in the geological profession.

During his studies at the University of Vienna, Walter became involved and eventually specialized in the study of turbidite sequences in Austria and their relations to flysch series in Germany, Czechoslovakia, and Poland. Very early he recognized the need for integrated investigations and combined modern stratigraphic, sedimentological, and micropaleontological tools with the classic tectonic and structural investigations. Fieldwork in the cold, high Alps resulted in his acquiring the nickname "Geisti (ghost spirit). It appears that after a very serious and long session of geological discussions and wine tasting, Walter found himself covered only in white paper, which he used as a cover to run to his room. However, this nickname is still used today to describe him as the spirit of teamwork, cooperation, and friendship within the geological community of Austria.

Upon graduation in 1968, with the Melchior-Neumayer Award for the best Ph.D. thesis in earth sciences, he embarked on a distinguished academic career in Berne and Tübingen. Walter joined OMV AG, the Austrian Petroleum Company, in 1974. After a stint as a well-site geologist, he moved into the domestic exploration department. He developed important sub-thrust plays and participated in the discovery and development of the Hoflein and the Stockerau gas fields, respectively. He also embarked on an international career by representing OMV at the joint venture with PETROREP in Calgary. During his stay in Calgary (1985–1986), Walter became known as the "wine professor" of Calgary. He almost left geology for a new career managing a Heurigen-style (wine tasting) restaurant. However, the relatively short summers in Calgary did not offer much potential for an outdoor, leisurely, "civilized" lifestyle.

Walter is known as an integrator and innovator. As the head of domestic exploration geology between 1986 and 1988 and the head of production and development geology, he was recognized as a great team builder, modernizer of technologic applications, and communicator. In addition to his official duties, he also found time to teach applied petroleum geology at the University of Vienna. He was a board member of the Osterreichische Geologische Gesellschaft and was responsible for its affiliation with AAPG. He was also active on AAPG Membership, Technical Program, Committee on Committees, Distinguished Lecture, Grants in Aid, Youth Educational Activities, International Regions, and International Liaison committees and represented his society on the House of Delegates International Participation and International Representation committees.

Walter is married to Christa and has two children. He is also a marathon runner, hiker, and mountain climber. However, his "Geisti" spirit of friendship, love of family and his profession, collegiality, and team building are best observed during his favorite pastime in the aptly called neighborhood inn, the "Graubn" (graben or pit), in the company of his geology friends. Walter used all of his diverse skills to put together an outstanding international Convention Committee for the 1997 AAPG International Conference and Exhibition in Vienna and was the main spirit behind its success. At this extremely successful conference, Walter was recognized with the Special Commendation Award for 1997.

Upon retirement from OMV on August 1, 1998, Walter refused to rest on his laurels. Instead, he volunteered with great energy and enthusiasm to lead a pilot for the brand new concept for the AAPG: the Service Team Program. Working with an International Liaison Committee task force and AAPG headquarters, Walter helped formulate a pilot program to deliver products and services to present and prospective members in the "frontier" areas of the AAPG's sphere of influence. In November 1998 the Executive Committee officially appointed Walter the first AAPG Service Team leader and as a result of a year of troubleshooting and refining, the Service Team concept is a functioning success with a growing number of teams throughout the world. He is the "type section" for the concept.

Walter's keen understanding of the political changes in central and eastern Europe and the Commonwealth of Independent States helped him create a vision of future AAPG activities in the area. Following the fall of the Berlin Wall, he embarked, single-handedly, on a quest to connect earth scientists in the region with AAPG. He visited many universities and scientific

institutions, and personally raised funds to expense students and student chapter sponsors and other key memberships. He is the communicator and troubleshooter for all activities, reviewing hundreds of membership applications, helping with membership sponsors, and reviewing affiliation documents and student chapter reports. His accomplishments are staggering:

- He has contacted 35 universities, creating 16 student chapters with more than 380 members.
- More than 550 students have become members of AAPG through additional sponsorship attracted by Walter.
- Ten local societies have affiliated with AAPG with a total membership of more than 640 members.
- Three sets of AAPG publications and *Bulletins* have been sent to universities in Poland and to geological surveys in Bosnia, Croatia, Austria, and Albania, with additional ones to be shipped to Ukraine, Romania, and Bulgaria.
- He has been active in helping to develop in Vienna a Mid-Career Training Center to serve eastern Europe and middle eastern geologists.
- Several central European AAPG members have sponsored colleagues in the East for active membership, thus creating a "critical mass" of sponsors in other countries.
- He developed, coordinated, and participated in the first-ever AAPG presidential tour of 11 eastern European countries. This tour successfully reached more than 600 geologists in the region, promoting the image, activities, and goals of AAPG.

Walter has made many trips on behalf of AAPG to establish new Service Teams and to staff AAPG booths at conferences. He has used very successfully the knowledge, experience, and diplomatic skills gained in Vienna and from his trips to help guide the Organizing Committee of VNIGRI/AAPG International Conference in Saint Petersburg, Russia. This very successful conference opened the doors to understand opportunities in Russian petroleum geology.

He has helped establish AAPG activities in Ukraine, Russia, Bulgaria, Romania, Estonia, Austria, Albania, Latvia, Lithuania, Macedonia, Slovenia, Slovak Republic, Hungary, Poland, Czech Republic, Croatia Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, and Georgia and is helping with other countries as well.

His understanding of the economic situation of eastern Europe and its potential impact on membership dues has triggered the concept of the GEM program (Geoscientists Enabling Membership), which was designed and developed together with Brenda Cunningham. The newly established GEM clearinghouse is actively supporting new members.

Walter Grün is AAPG's Ambassador to the East, our "Geisti" and engine of growth.

Citation—To Walter Grün, devoted member, visionary, and missionary for AAPG, in recognition of his tenacious and continuous efforts to bring AAPG membership activities to students, scientists, and the geologic communities of central and eastern Europe. A distinguished geologist, accomplished convention chair, relentless innovator and engine for society affiliations, Walter is the type section AAPG Service Team leader.

Nahum Schneidermann

Response

In 1992 I spent my vacation in my second hometown, Calgary, at the same time the AAPG Annual Convention took place in this charming city. At that time I decided to become more than just a dues-paying member of this Association. I had been a so-called Active Member since 1981, but all I had done was pay my dues, receive the *Bulletin* and the *Explorer*, and sometimes even find time to read some of the papers.

In Calgary I decided to significantly change my relationship with AAPG. I approached the president of the Canadian Society of Petroleum Geologists, George Eynon, after a meeting of the AAPG Executive Committee and asked him if the Austrian Geological Society could apply for affiliation to AAPG. This was the beginning of my career as a real Active Member of AAPG.

My career as a geologist started in Vienna, as my friend Nahum elaborated in his citation. It was a life of freedom after the long years of mental restrictions at high school, and after the restrictions caused by the social and economic situation in my city after WW II. It was pure fun to go beyond all limits, to "think horizontally," to develop theory after theory. This feeling was the same in Berne, where I spent four years and during the one year in Tübingen. I recognized geology not as a science or a profession but as a special way of thinking, an exceptional way of living my life.

At this pinnacle of joy and fun I decided to leave the academic realm and join the oil industry. Again, I had to face a complete change of my life. All of a sudden I learned a new meaning for the word "responsibility." Developing a theory now meant that management was going to "drill it." The results of these actions were often sobering for me and my scientific self-confidence. Spending 25 years in such an environment makes one humble against the science of geology, and also makes one aware that man's knowledge of nature is very limited.

The time was right to change my life once again, which brings me back to Calgary. The Austrian Geological Society affiliated with AAPG. Fred Dix asked me if I would be willing to organize an AAPG conference in Vienna, and I replied, "Why not?"

The success of this conference was the base of my current position as an AAPG Service Team leader. This position enabled me to combine my experiences during the different stages of my life for the benefits especially of our very young colleagues, the students of earth sciences all over the world. They are the future of our science, of our industry. They deserve the Association's unreserved help and support.

To comply with this task one needs good friends. Lucky beggar as I have always been, I won some. Bruce Lemmon, my former boss as a Service Team leader, accompanied me after the organization of the Vienna conference commenced. This special kind of friendship enriches and fulfills one's life.

Nahum Schneidermann, my biographer and advisor, is always at

hand when help is needed. I owe him my sincerest thanks for the effort and time he put into the attempt to remind me of a beautiful life.

The duty of both my friends is to hold me back when I am about to run full speed in the wrong direction and to encourage me when I am hesitating to follow the right way.

As a typical Austrian, I know that sometimes awards are given instead of real money. However, there are some special awards whose value cannot be measured in money. Undoubtedly, one of these awards is to be named an AAPG Honorary Member. Getting such an award makes me thoughtful and, of course, very grateful, very grateful to all the people who contributed to my development—my parents, my teachers, my family, and overall to Christa, my wife. I love her for her patience to share a life with a geologist, which takes more than a deep understanding of my desire for independence and unlimited curiosity.

Finally, I would like to convey my gratitude to the AAPG, to the members of the Executive Committee, and to all my friends and sponsors in this association. My special thanks, however, go to Robbie Gries for her guidance through all the years, her friendship and support. I look forward to a time where some of our new members from central and eastern Europe will stand, like me, before you, to receive their awards for service to our society. This, maybe, will be an even better award. Thanks again.

Walter P. Grün

ROGER M. SLATT
Honorary Member

Roger M. Slatt has spent the past 33 years dedicated to teaching, research, and the practice of geology. As a geoscientist in industry, he developed innovative techniques that are now widely used and applied to increase reservoir production. As an academic, he is establishing new techniques for teaching geosciences, and new standards for academic-industrial partnerships. Roger continues to make important research contributions to the fields of reservoir geology and deep-water sedimentation, while contributing thousands of hours of service to professional societies.

Roger is the director of the School of Geology and Geophysics and is the Eberly Family Chair Professor at the University of Oklahoma. A native of San Francisco, California, Roger graduated with his B.A. degree from San Jose State in 1964. He then moved to Fairbanks, Alaska, receiving his M.S. degree and Ph.D. from the University of Alaska in 1967 and 1970, respectively. He then taught geology for six years at Memorial University in Newfoundland, Canada, and for two years at Arizona State University.

Looking for a change in venue and professional emphasis, Roger spent the next 14 years working in the petroleum industry with Cities Service Research, ARCO Research, and ARCO International Oil and Gas Co. While in industry, Roger worked as a research and reservoir geoscientist on reservoirs in California, the North Sea, Wyoming, Alberta, Algeria, and New Zealand. At ARCO Research he managed stratigraphic and geophysical research groups, and then at ARCO International he managed an integrated geology-petrophysics-reservoir engineering team, which had responsibility of first review of global exploration wells as well as international fields in which ARCO was invited to participate in advanced recovery projects. These latter two experiences impressed upon him the importance of working in integrated reservoir teams, a concept that he has continued to emphasize in all aspects of his profession, including to his students.

Leaving industry, Roger joined the Colorado School of Mines (CSM) as a professor and served as the head of the Department of Geology and Geological Engineering (1992–2000). While at CSM, Roger initiated the highly successful Petroleum Technology Transfer Council (PTTC) for the Rocky Mountain Region, serving as its director from 1995 to 2000. This became the model for several other PTTC regional offices now well established around the United States.

Roger has been at the University of Oklahoma (OU) since August 2000. Since assuming directorship of the School of Geology and Geophysics, he has significantly enhanced the petroleum geoscience educational and research program, and promoted interdisciplinary education and research. The number of petroleum companies that recruit at OU has more than doubled since his arrival, and both undergraduate and graduate student enrollments have increased.

Roger has demonstrated his versatility by publishing extensively in many different fields of geology. He co-authored *Argillaceous Rock Atlas* with Neil O'Brien (Springer-Verlag), and is finishing a book for AAPG on the petroleum geology of deep-water depositional systems. He has co-edited two books: *Compartmentalized Reservoirs in Rocky Mountain Basins* (RMAG, 1998), and *Deep-Water Reservoirs of the World* (Gulf Coast-SEPM, 2000). Roger has published more than 90 papers and abstracts,

and has made numerous presentations on the subjects of petroleum geology, reservoir geology, seismic and sequence stratigraphy, shallow-marine and turbidite depositional systems, shale geology, glacial and Pleistocene–Quaternary geology, and geochemical mineral exploration.

AAPG recognized Roger's exceptional contributions by honoring him with the Distinguished Service Award in 1996. Roger has always used his position to advance the science of geology. He served as chair of the AAPG Research Committee (1991–1994), Oral Program chair of the 1991 AAPG Convention (Dallas), chair for the International Program 1994 AAPG Convention (Denver), and Oral Program chair for the 2000 AAPG Convention (New Orleans). Roger was a co-convener of the 1995 SPE/AAPG/SEG/SPWLA Archie Conference on Visualization (Houston), the 1996 AAPG/EAGE Research Conference on Compartmentalized Reservoirs (Houston), and the 1998 EAGE/AAPG Research Conference on Deep-Water Reservoirs (Almeria, Spain). He also served as a co-convener of the successful Gulf Coast Section SEPM Bob F. Perkins 20th Research Conference on Deep-Water Reservoirs of the World. Finally, Roger has organized and chaired numerous technical sessions at meetings, and sat on various professional society committees.

In addition to his academic and administrative responsibilities, Roger serves as a lecturer for professional societies, and as an instructor of short courses. He has served as a Distinguished Lecturer for three different societies: the Esso Australia Distinguished Lecturer in Petroleum Geology (1999); an AAPG Distinguished Lecturer (2001–2002); and an inaugural Distinguished Lecturer for the joint SPE/AAPG program (2002–2003). Roger has taught several short courses for AAPG on the petroleum geology of turbidite systems, and on reservoir characterization. He has led countless field trips for industry and academic groups.

I have had the honor and pleasure of knowing Roger for 19 years and working with him in a variety of capacities. He has been instrumental moving the profession toward on-line education through his two-year-old web-based course on Introduction to Reservoir Characterization (currently offered through AAPG), useable digital publications, and being in the inaugural program committee that introduced digital presentations at the AAPG Annual Convention (2000). He has always stressed the importance of an integrated approach to the discipline of geology. Thus, Roger Slatt is most deserving to be named an Honorary Member of AAPG.

Citation—To Roger Slatt, for sustained, innovative leadership in teaching and research, and for outstanding contributions to the profession of geology and to the AAPG.

Paul Weimer

Response

I am honored, flattered, and humbled to be recognized by AAPG as an Honorary Member. I am particularly grateful to my friend and colleague, Paul Weimer, for taking the time to track down and eloquently summarize my "dual" career in academia and the petroleum industry. Although one is ultimately responsible for one's own career, I believe that a career is in large part influenced and molded by relations with other people—who they are, what is learned from them, and how these teachings are applied. I have been fortunate to cross paths with many wonderful mentors along my convoluted career path. Any success I have had has been due to the lessons learned from these, and others not mentioned here. So, my response to this honor is to acknowledge some of these people and to relate just a few memorable, lasting experiences. My message to others is to watch, look, listen, work hard, get to know good people, and to volunteer your experience and time.

Like many geologists, I began my college education in engineering. At about the time I was questioning the long-term value of drafting bolts and hinges at San Francisco City College, I took a physical geology course from Doc Crowell. That was a pivotal course for me. I marveled at the magic of placing a mineral in a hollowed-out piece of charcoal and melting it with a Bunsen Burner and blowpipe to determine its identity. Also, learning that you could "read" rocks like you would a good mystery novel was a revelation.

After receiving my Associate of Arts degree in geology, my brother encouraged me to become a junior soils engineer at the State of California Division of Highways. Two years of testing soils and drilling holes through roads to sample the substrate paved the way for my return to school at San Jose State College. I was nudged in that direction by my highway engineer buddies Joe Boles, Mike McKenna, and Jorge Frecsas, as well as by my future wife Lynn. Memorable San Jose State faculty include Robert Arnal, who stimulated my interest in marine geology; Stanley Kapinski, who made sure our reports were always letter perfect (a fetish that students complain that I retain to this day); and Calvin Stevens, who I ungraciously broke in as a new assistant professor at Field Camp, not my favored place at the time.

Upon graduation I married, and spent my honeymoon driving the Alcan Highway in a Volkswagen Beetle to the University of Alaska, where I began graduate studies. As the first college graduate in my family, my proud parents presented me with a special gift that I use to this day—a *Webster's Collegiate Dictionary*. I'll always be grateful to my M.S. and Ph.D. advisor, Charles Hoskin, for instilling in me the joy of scientific inquiry and discovery. Professor Dan Hawkins became a friend and mentor, and convinced me that if I could learn how to read phase equilibrium diagrams and understand physical chemistry, then I could do anything in life.

Upon graduation, I accepted a postdoctoral fellowship at Memorial University of Newfoundland under the tutelage of Werner Brueckner, who taught me the virtues of patience, though I still have trouble with this (according to my two sons and staffs at Mines and OU). However, Ward Neale, head of the Geology Department, influenced me the most, first by hiring

me to initiate a marine geology teaching/research program, and then by showing me the fundamentals of both managing and politics. For example, he taught me how unwise it is to openly criticize your boss at a party after too much refreshment! Another learning experience was when Ward persuaded the president of Memorial University, Moses Morgan, to take a cruise on our 34-ft research vessel for a marine geology demonstration. As the boat left port and headed to sea, Ward opened a thermos of coffee, poured in some Newfie Screech, and extracted from the trapped president some promises for improvements to the Geology Department, which ultimately led to a new building. My colleague Noel James also taught me the values of skillful presentation and the importance of timing, two traits that I still try to maintain.

After six years of cold Newfoundland weather (plus the earlier five frigid years in Alaska), I yearned for warmth, so accepted a faculty position at Arizona State University. While there, I learned from Troy Pewe that class, integrity, and dignity are important attributes for any true professional. Bob Lundin added to my education in patience and perseverance.

After two years at Arizona State, I shifted careers to the petroleum industry as a senior research scientist at Atlantic Richfield Company in Dallas. AAPG Memoir 26 had just been published, and I was hired along with a young geophysicist named T. K. Kan to learn what seismic stratigraphy could do for ARCO. T. K. taught me the workings of geophysics and launched me into the confusing world of computing; I've never fully recovered from either of these learnings!

Another career shift put me into my first research management position at Cities Service Co. in Tulsa. Many people stand out as influential during this period. Lyle Baie, who was a superb supervisor and manager, taught me to support, rather than direct, technical people. Rod Tillman and Eric Eslinger instilled the scientific method in me. From Mike Horn, Tom Moslow, Mike Boyles, Jim Rine, and Ken Helmold I learned the art of dealing with people. While at Cities, I also experienced firsthand what was to later become the norm in the petroleum industry—mergers, downsizings, rightsizings, reorganizations, outsourcing, layoffs, and human resource departments. This experience has continuously guided the way in which I do things and attempt to treat people.

Though I was not outsourced when Cities was "merged," I returned to ARCO as stratigraphy research manager, followed by a few years as manager of Reservoir Evaluation Research. Memorable mentors there include Marcus Milling, Al Barnes, and Hamid Al-Hakeem, who were all great managers that I respected, so observed. Geologic colleagues Mark Schiehing, Jim Ebanks, and Doug Jordan convinced me that to effectively manage a technical group, I had to continue to do technical work—this message has also stayed with me to this day. I also remember ARCO president Jim Middleton telling a story of the executives of railroad companies long ago meeting to discuss the fledgling airline transportation industry, and how they came away from the meeting assured that the railroad industry was secure and that airplanes were just a fad! This lesson is obvious.

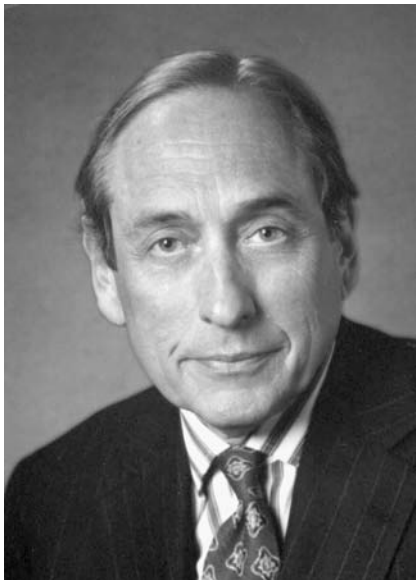
When I later transferred to ARCO International Oil and Gas Co. to manage an integrated reservoir evaluation team, I met the master of them all, Marlan Downey. Marlan provided me with many examples of humility, style, personal integrity, and scientific honesty. He inspired me, as he has many others, to "just do the right thing." Like most people, I learn something every time I talk with Marlan or read something he has written.

In 1992 another career change landed me a real jewel of a job, head of the Department of Geology and Geological Engineering at Colorado School of Mines. By that time I was ready to pass my industry experiences onto the upcoming generation of petroleum geoscientists. Who could think of a better place to do that than in Golden, Colorado? My wife, Linda Gay, was not keen to leave Dallas for Golden, but she graciously consented, and eventually grew to love the people and location. So did I, thanks not only to the fantastic scenery, geology, and trout fishing, but also to the many people with whom I was able to associate, including Bob Weimer, John Haun, Clyde Moore, and Fred Meissner in the department, and alumnus John Lockridge. I also admire John Warme for being a true scientist in the best sense of the word, and Neil Hurley, whose uncanny ability to juggle an incredible number of activities at any given time still amazes me. I was fortunate to advise several graduate students, most notably David Pyles, who sets the standard for graduate student performance and integrity. I was also impressed by John Trefny's phenomenal rise through the ranks to the presidency of Mines on a platform of integrity, sincerity, and unyielding belief in his mission.

After eight great years at Mines, I was lured to the University of Oklahoma (OU) by phenomenal alumni, active faculty, and OU's inspirational president, David Boren. Although I have already felt the positive influence of many individuals there, I won't name them now. Suffice it to say that I work with a terrific group of faculty and staff, as well as a dedicated cadre of high class, inquisitive graduate students.

So, if I have done the right things during my career, including returning some of what I have experienced, it is because of the quality of the mentoring I had along the way. In addition to these people, and others I haven't mentioned, I thank those from AAPG who nominated me and voted on my behalf for this honorary membership award. I will cherish it.

Roger M. Slatt



M. RAY THOMASSON

Honorary Member

Ray Thomasson has had an eminent career as a petroleum geologist, and is a leader in utilizing and promoting the use of the multidisciplines of geoscience and new technology in the discovery and development of oil and gas. With an infectious enthusiasm in predicting a large remaining resource potential in the United States, he has informed the public about the petroleum business and the need for present and future planning to assure sustainable reserves for the peoples' welfare.

Born in Columbia, Missouri, September 3, 1930, Ray attended schools in that city before majoring in geology at the University of Missouri. He received a B.A. degree in 1952 and an M.A. degree in 1953. After a two-year duty with the U.S. Air Force as an intelligence officer, he enrolled at the University of Wisconsin and completed his Ph.D. in 1959; Ray has been honored with the Distinguished Alumni Award from both Missouri and Wisconsin. While in graduate school, he joined the AAPG in 1955, the start of a long and productive affiliation.

Ray's professional career followed the common employment pattern of the 1950s, 1960s, and 1970s. Shell Oil, a major company, offered employment in Midland Texas in 1959 to have systematic training in geology, geophysics, and to do creative work in generating and drilling prospects. After four years Ray was transferred to New Orleans for two years and to Houston for one year of similar activities. Then followed ten years in management positions with one- to two-year-long assignments covering operations, research, strategic planning, and the business aspects of the petroleum industry, this work culminating as chief geologist, Shell Oil Co., Houston.

Ray's 17 years with Shell were "golden years": advances in geophysics with "bright spot" technology; new concepts in trap delineation; and advancements in structure, stratigraphy, petrophysics, engineering, and geochemistry. This new knowledge was created largely at the Shell Development Co. Research Center, a program briefly managed by Ray. A challenge developed as to how to integrate and apply the new concepts and technology in everyday operations, and some of Ray's assignments related directly to solving that problem. As a result, the multidisciplinary team approach became an indelible part of Ray's philosophy.

The Shell experience (1959–1977) prepared Ray to work for independent companies, to be a consultant, and to start his own companies. He was vice president of McCormick Oil and Gas (1977–1980), president, Spectrum Oil and Gas (1980–1983), and president, Pend Orielle Oil and Gas (1983–1985). After a move from Houston to Denver in 1986, Ray worked as a consultant before starting his present company, Thomasson Partner Associates (TPA), in 1991. The objective of TPA is to form integrated geoscience teams to create large potential oil and gas exploration projects to discover major accumulations. Success has been achieved at the giant Cave Gulch discovery in the Wind River basin, Wyoming.

One of the most rewarding experiences in a professional career is volunteer work—Ray as a role model sends the message to get involved. AAPG and affiliated societies became home base for Ray's volunteer efforts. Besides numerous local society committees, Ray has served on, or chaired, no less than 11 AAPG committees from 1964 to the present: Public Information; Energy Minerals; Education; Visiting Petroleum Geologists; Geophysics; Resource Evaluation; Corporate Liaison; Research; Technical Program; Publications; and Committee on Committees. In addition, he was president, Southwest Section (1964); Distinguished Lecturer (1987); associate editor, co-convener, Archie Conference on Visualization (1993); House of Delegates delegate or alternate (1994–1997); and AAPG president (1999), followed by three years on the Advisory Committee. Little wonder that the AAPG Distinguished Service Award was given to Ray in 1995. Ray has also been active in other societies, most notably the American Geological Institute (AGI) as a founder and first chairman of the AGI Foundation (1984), where he still serves as a trustee. As a new assignment, Ray is the president of AGI for the 2002–2003 term.

Ray excels as a communicator, motivator, and visionary, and sharing knowledge has been a high priority with new students and professionals alike. For AAPG, he has been a distinguished lecturer, short course lecturer, visiting petroleum geologist to universities in the United States and abroad, and started the Geophysical Corner, *AAPG Explorer*. He has presented papers and organized technical sessions at regional and national meetings for which he has received two best paper awards and the A. I. Levorsen Memorial Award. Some of Ray's personal beliefs about exploration, the geologist's role in society, and the need to synthesize and find solutions to complex problems in the oil and gas industry are expressed in 12 President columns in the *Explorer*, July 1999 to June 2000. His publications include diverse subjects about stratigraphy, sedimentation, geochemistry, and petroleum geology in the western United States, energy forecasting, and principles of exploration.

Ray has four daughters, four grandchildren, and is married to Merrill Shields, who recently retired as chief of staff for the Attorney General's office, Colorado. He retreats with his family to a mountaintop in

western North Carolina where he spends time gardening.

Ray's impressive career qualifies him to be an Honorary Member "as a person who has distinguished himself by service and devotion to the science and profession of petroleum geology and to the Association." It is a credit to AAPG to have Ray among its honorary members.

Citation—To M. Ray Thomasson, distinguished petroleum geologist and professional leader; energetic administrator; integrator and facilitator in the use of cutting-edge science and technology in exploration; wildcatter and perpetual student of how and where to find the next big field.

Robert J. Weimer

Response

I want to thank Bob Weimer for his very kind and generous citation. Bob has been my mentor and friend for 25 years. I have enjoyed and gotten great satisfaction from every job I have been involved in with AAPG.

My activity started with AAPG while I was in graduate school in 1955. At that time I had very little appreciation for petroleum geology, but I marveled at the challenging field of geology as a science. Every aspect seemed interesting, and by the time I graduated from the University of Missouri with my master's degree, I had developed a lifelong passion for geology.

I spent the next three years in the U.S. Air Force and decided I wanted to teach at the University level. My mentors at Missouri University, A. G. Unklesby, M. G. Mhel, and Walter Keller supported the idea. Lowell R. Laudon at the University of Wisconsin, Madison, encouraged me to attend there. All four professors were critical to my education and my career. At Wisconsin, L. R. Laudon, or "L. R." as he was known by his assistants, was a great teacher. He inspired us all to want to teach.

On graduation I was offered a position teaching paleontology and stratigraphy at the University of Illinois and a job in Exxon's research lab in Houston. I took a job with Shell Oil Company in Operations in Midland, Texas because I wanted practical experience in order to teach. I told John Galley, the Shell interviewer, that in five years I intended to teach in a university. He hired me anyway and I stayed with Shell for 17 years. I continued to learn and grow through experience with Shell. Gradually I learned the excitement of exploration and thus my second passion developed, "playing the game" (i.e., exploring for petroleum). I am absorbed by the pursuit of new, undiscovered oil or gas fields. Today we are blessed with so many new technical tools for playing the game. With our increased understanding and with our new tools, the game has become even more exciting.

I had some great mentors in Shell. In Midland, Tom Bay, Don Posey, Pat Bolden, Rick Farmer, O. B. O'Brien, Jack Edwards, and Alan Thompson were important. Hugh Looney and Hugh Frenzel were important outside Shell. In New Orleans, Tom Fails, Gerry O'Brien, Bill Gibson, Bob McCormick, Urban Allan, Miner Long, Dick Grolla, Dick Nicholas, Mike Forrest, and J. T. Smith were instrumental in my growth. Paul Terreson was my geophysical mentor at Shell and Tom Connoly, Jim Holler, Billy Flowers, Charlie Blackburn, Dick Nelson, and Jim Wilson were manager mentors.

Looking back on my Shell career there is one person who stands out, R. E. (Mac) McAdams. He shaped my entire Shell career, and encouraged me to develop multidisciplinary teams in 1970 as the Offshore Division exploration manager. That was a seminal point in my career and in my philosophy of exploration.

I spent four years out of exploration in planning and forecasting from 1972 to 1976. The entire industry went through massive changes in the middle 1970s. Pierre Wack was the first industry "scenario planner" and launched me on a lifelong interest in looking at future options and weighing their probabilities.

My family variously enjoyed and suffered through 12 moves in 17 years with Shell. My daughters, Julie, Laura, and Mary Justice are all married, all mothers, all well-adjusted achievers in their respective fields, and are a true blessing.

In 1977, while he was president of AAPG, Bob Weimer appointed me as chair of the Education Committee.

I joined McCormick Oil and Gas in 1977, where I learned a great deal about the oil business from Sandy McCormick. Three years later in 1980 I took a bigger step and formed Spectrum Oil Company by raising the necessary funding and building an unrivaled team of ex-Shell and ex-Amoco staff. Less than three years later my board fired me. My great friend and mentor, Charles Weimer, called the next day and kindly gave me a place to hang my hat—a true, true friend. Three months later I was president of Pend Orielle Oil Co., a medium sized independent. Although it was very successful, we were sold and again I was fired.

During this turmoil I found the person who has made my life complete. Merrill Shields and I have been committed for 15 years and married for 12 years. In addition to our three girls from my first family, we also have adopted Tito, Merrill's goddaughter, and a wonderful addition to our family.

Over 12 years ago Merrill and I formed Thomasson Partner Associates, Inc. (TPA). Again my friend Charles Weimer played a pivotal role. TPA has survived through the petroleum depression of the early and middle 1990s. We apply the same concepts today that we developed in 1970; i.e., integrated interdisciplinary technical teams exploring for large-scope opportunities using the latest technologies without forgetting the fundamentals.

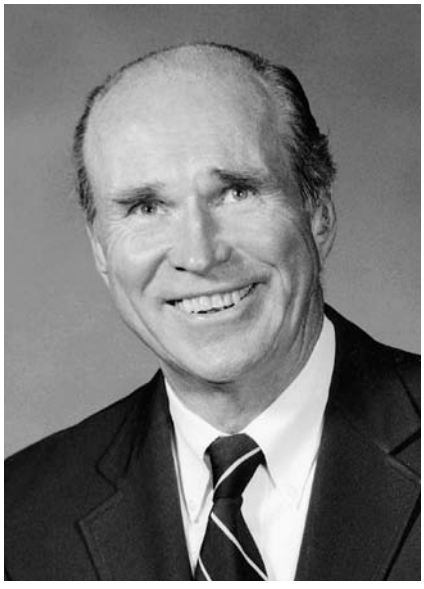
All through my career starting in Midland in the early 1960s I have been associated with AAPG. As a nomad with a major oil company I was never in one place long enough to be a major local contributor. Although I have worked through the years with the West Texas Geological Society, New Orleans Geological Society, Houston Geological Society, Rocky Mountain Association of Geologists, and with SEPM affiliates, my main allegiance and efforts have been to AAPG. Since 1963 with one short hiatus I have been serving on one or more committees. In addition to Bob Weimer, my many AAPG mentors include Grover Murray,

Mike Halbouty, Jack Parker, John Hahn, Larry Funkhouser, Bruno Hanson, and Bill Fisher.

Clearly, the highpoint of my AAPG activity was becoming our millennium president. That job was particularly satisfying because we had a great Executive Committee, and we accomplished a great deal, including hiring Rick Fritz as executive director.

To be honored in this way by an organization I love so much is wonderful. I want to thank every person in AAPG with whom I have worked. It has been a truly great experience.

M. Ray Thomasson



REX MONAHAN

Michel T. Halbouty Award

Rex Monahan, northeastern Colorado geologist and oil producer, believes in hands-on, one-on-one philanthropy. For four or five decades his life goal has been to "improve the human condition." Since most of his endeavors have been in education, he began with Northeastern Junior College of Sterling, his home, where he has been a member of the Board of Trustees for the past 22 years. For 13 of these years he has served as chairman.

At this school he has sponsored and financed many students for General Equivalency Diplomas. He calls this the Monahan Second-Chance Program. In addition he has financed individual junior college scholarships for single parents. The number benefited by these scholarships has reached 1300 to date.

He assisted Regis University in a project to offer a Master of Business Administration degree through Northeastern Junior College. Twenty students received this degree after the first year, and Rex Monahan was among the group, having earned his M.B.A. at the age of 65.

His current enterprise, the Monahan Second-Chance Academy, begun in 2001, involves financing scholarships for an Associate in Arts degree in general studies for prisoners at the Colorado Department of Corrections facility at Sterling. This is not a new idea for him; from 1969 to 1979 he provided funding for 300 inmates at Colorado State Prison at Cañon City to obtain GED diplomas. Since GED study is now state sponsored, Monahan has progressed with his present program to offer the opportunity for an advanced degree.

Actually, the concept of additional education for offenders is believed to be an innovation in Colorado. Monahan's previous experience left him with the belief that education is an important factor in rehabilitation, and this is supported by studies that have shown that recidivism decreased markedly with prisoners who have participated in college level courses. With the enthusiastic cooperation of Northeastern Junior College and Sterling Correctional Facility, the program is in place, and the number of students is increasing.

In accord with his goals, he was one of the founders and serves on the Board of Directors of the Logan County Literacy Coalition, an organization designed to train tutors for literacy improvement among individuals with limited reading skills.

Away from his home turf, Monahan has contributed encouragement and financial support to various colleges: the Geology Department of the University of Nebraska (his alma mater), Regis University, Morgan Community College, Trinidad State Junior College, and the Colorado School of Mines. He takes an active interest in, as well as contributing to, the Friends of Nursing organization of Denver, focusing especially on scholarships for single parents.

He and his wife Doris have received several awards jointly: the Mardee McKinlay–Florence Nightingale Award for interest in "health issues, education, and humanity" from the Colorado organization of nurses; honorary Associate of Arts degrees from Trinidad State Junior College—the first and only it ever awarded; the Citizens of the Year award from the Sterling Chamber of Commerce; and the coveted Civis Princeps Award, in recognition of their interest and involvement in the betterment of human lives, from Regis University, the highest award Regis bestows.

Among numerous other honors, in 1990 the University of Nebraska recognized Monahan with its Distinguished Alumnus Award. Monahan received from his peers the Western Region Trustee Leadership Award in 1992, and from a six-state region, Monahan was chosen for the NCRD Region VIII Benefactor's Award at the 1996 National Council for Resource Development Conference, held in Washington, D.C. In 1997 the International Society of Petroleum Engineers presented him with their Public Service Award. In 2000 he was named Wildcatter of the Year by the Independent Petroleum Association of the Mountain States.

Outside of the academic field, Monahan has served the community on the Board of Directors of the High Plains Easter Seal Society for 22 years, where the chief service was rehabilitation for the handicapped. He was one of the founding members of the Rundus Foundation to provide organ and vocal music training. He maintains emergency funds for many of Sterling's churches, and only his secretary knows of his private donations and contributions. He and his wife donated a one-acre plot to the city of Sterling for what is called Monahan Park, and Monahan was co-chairman of and principal contributor to a committee to raise money for Monahan Library at Northeastern Junior College.

Rex started his career in the petroleum industry in 1950 when, after service as an infantry officer in Europe in World War II and graduation from college, he moved to Sidney, Nebraska, to work in the oil field as a roughneck

for Loffland Brothers Drilling Company. After about one year as a roughneck, his independent oil business began. He developed geologic prospects and raised money to drill wells. He has drilled, or been a party to drilling, approximately 200 exploratory wells in Colorado, Nebraska, Wyoming, Utah, and Arkansas, which resulted in 40 discoveries, several of which were not commercial. He currently operates producing wells in Colorado, Nebraska, and Kansas.

He is a founding Trustee Associate of the AAPG, a senior member of the Society of Petroleum Engineers (SPE), past chairman of the Colorado-Nebraska subsection of SPE, a Certified Petroleum Geologist #58, a Certified Professional Geologist #424, and a Registered Professional Engineer in Colorado. He has also authored and co-authored articles that have appeared in the *Oil and Gas Journal*.

Rex has become a legend in Sterling nursing homes for his daily visits. Personalized by his cheery friendliness and his responsive interest in the elderly, Rex's morning calls are anticipated and welcome. He has made many friends in this way, and enjoys hearing about their past lives and accomplishments. He is learning to play the piano and performs at the nursing homes regularly on request. He has been known to take the more daring of the ladies for rides on his motorcycle.

He continues to run his business personally, but manages to find the time for regular workouts with free weights. He has an impressive list of weightlifting placements in the Masters Division: 40 National Championships, 3 Pan-American Masters titles, 1 Senior Olympics title and 17 World Masters titles. He was inducted into the American Weightlifting Association Hall of Fame in 1998 and the U.S. All-Round Weightlifting Association Hall of Fame in 2002.

Citation—To Rex Monahan, whose purpose is to improve the human condition. The field of geology made it possible.

Sarah Dayton

Response

I am honored to receive the Michel T. Halbouty Human Needs Award. Michel Halbouty is a legend in the profession of petroleum geology. A number of unheralded members of our profession are more deserving of this award than I am. I can assure you, however, that none of them could be more pleased than I am to receive it.

My entry into the field of geology was a bit circuitous. After finishing my service as an infantry officer in Europe in World War II, I was going through a "man, know thyself" phase, which prompted me to get a B.A. degree in psychology at the University of Nebraska. I am still trying to know myself. While pursuing that degree I met two people who markedly influenced my life. One was a complete lady, Doris Leah Lafler, who became my wife. She is very bright and studious, and she brought a measure of culture and refinement into my otherwise crude life. The other was a complete gentleman, professor E. F. Schramm, chairman of the Department of Geology, who encouraged me to study geology, which led me into the oil and gas producing business. Schramm encouraged me during my studies and for many years afterward when I was struggling to make a beginning in the petroleum industry. I treasure his carefully crafted handwritten letters. When I joined the AAPG Trustee Associates, I dedicated my membership to his memory. It is impossible for me to describe the support of my wife Doris who, during a number of difficult early years in the business never complained and never ceased to encourage me. Our four children turned out quite well, thanks to her. I know it might seem rather crass to say this, yet the recognition that I am receiving resulted from giving away a fairly substantial amount of money over a long period of time, but half of the money was hers and I want her to have proper credit.

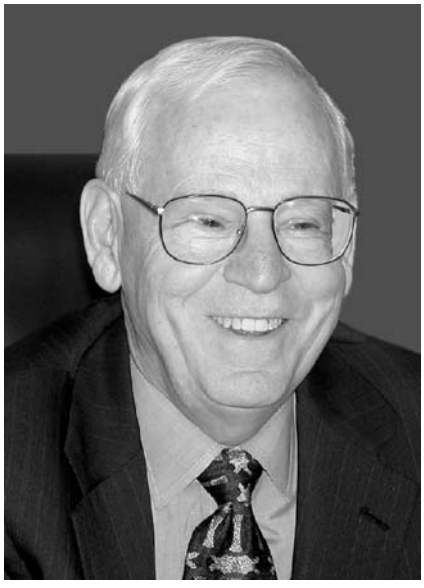
We started this business with a fool's courage and $400.00 saved from about one year working as a roughneck for Loffland Brothers Drilling Company. My pay was $1.30 per hour. I began by working up geologic prospects and promoting the drilling of wells in Colorado and Nebraska. A few of them were modest producers. I later acquired a few largely depleted oil fields, and the Arab oil embargo and the Iranian revolt made me look a lot smarter than I really am.

I once came upon a sentence in an oil property evaluation book to the effect that marginal wells in the hands of a careful operator can show surprising longevity. That became a rule and guide for me. It also made me more aware of how much oil remains in the reservoirs after primary and secondary recovery processes have been employed. Our nation has produced more than 180 billion barrels of oil, which is more than any other country has produced and is more than the proven reserves of any country with the exception of Saudi Arabia. Much more still remains in the reservoirs that produced the 180 billion barrels. Granted, all of the remaining oil can never be produced by any methodology, but a substantial amount of both oil and gas can be produced by enhanced oil recovery methods such as high-pressure air injection, carbon dioxide, natural gas, chemicals, and perhaps by methods not known at this time. Whenever possible, existing wellbores should be preserved. It is unsettling to recognize that as our country, with its daily needs of about 21 million barrels of oil and ever increasing needs for natural gas, has fewer trained professional geologists engaged in expanding our energy resources than it had 18 years ago. The membership in AAPG was 42,577 in 1985 and is now 29,405.

Accordingly, I feel each one of us should encourage and financially assist another person to enter the field of geology. The study of geology made my life more meaningful.

I close by saying thank you for giving me this important recognition.

Rex Monahan



WILLIAM J. BARRETT

Outstanding Explorer Award

Colorado's Piceance basin… Wyoming's Madden and Gave Gulch fields in the Wind River basin… the Hilight field and coalbed methane development in Wyoming's Powder River basin… some of the biggest gas field finds in recent memory have one common denominator—Bill Barrett's fingerprints are all over them.

From the family farm in Kansas to a career distinguishing him as perhaps today's quintessential Rocky Mountain explorationist, the discovery and recovery of hydrocarbons has inspired William J. "Bill" Barrett to come out of retirement for the second time with a dedication and determination worthy of AAPG's 2003 Outstanding Explorer Award.

That exhilaration of discovery is the driving force behind the formation of Bill Barrett Corporation. The new company, formed in January 2002, also allows the 74-year-old geologist the opportunity to once again work with his two youngest sons and others from Barrett Resources, an immensely successful Rocky Mountain exploration and production independent Bill ran for 20 years, as well as the opportunity to help develop budding talent. The mission remains unchanged: discover and recover the substantial gas reserves remaining in the Rocky Mountains.

Bill's reputation as a hard worker, team builder, and calculating risk taker was first developed in the tough times of post-Depression Kansas, where he learned of hard work, teamwork (with nine siblings), and enterprise on the Barrett family farm and poultry processing business. He notes wryly that the experience helped eliminate entire categories of potential career choices, animal husbandry and farming among them.

Another trait, that of a sense of duty, was deepened when Bill dropped out of college to run that poultry business following his father's stroke. Bill started his own family soon after marrying high school sweetheart Louise Kuhn, to whom he has been married for 53 years.

His education continued with an equally enlightening stint in the Army during the Korean War. That experience, too, served to eliminate several more potential career choices (e.g., a career in the military), but with the experience came the G.I. Bill, applied by Bill toward his B.S. and M.S. degrees in geology from Kansas State University in 1957.

After college, El Paso hired Bill as a stratigrapher in Salt Lake City, where he first encountered areas where he was to later leave an indelible mark: Uinta, Piceance, and Green River basins. The young, inexperienced geologist experienced the thrill of discovery through El Paso's discovery wells on the 100-bcf Desert Springs and giant Patrick Draw fields on the east flank of the Rock Springs uplift in Wyoming.

A transfer to New Mexico's San Juan basin introduced Bill to basin-centered gas plays, which further confirmed his belief in the potential of the Rockies. Similarly, a three-year stint in Casper, now as exploration geologist with Pan American (later Amoco), would form the foundation for exploration concepts to be developed decades later in the Cowboy State.

It wasn't until Bill, Louise, and their seven children moved to Denver in 1965 that Bill realized geology could translate to other opportunities in the independent sector. His Amoco work marked his last as an employee with a major oil and gas company; experience had expanded his vision and had taught him to think big and become more entrepreneurial.

Now chief geologist for Wolf Exploration/Inexco (called "Wolf University" by its employees), everyone was expected to do what was needed for the enterprise: Bill learned about land and legal work, made deals, raised capital, and helped Wolf go public, all skills he's continually honed in the 35 years hence.

The agility and aggressiveness of the smaller company allowed Wolf to assemble 350,000 acres on eight exploration prospects south of the Belle Fourche arch in Wyoming's Powder River basin. Wolf drilled four discovery wells, three of which proved to be on the giant (200 MMBOE) Hilight complex. As for the fourth discovery well? That one found the eight-million-barrel Kaye field.

Bill's trademark perseverance (termed "stubbornness" by some) helped uncover another giant find only one year later. Despite dry holes drilled by several others in the Wind River basin's Madden area, and despite the erroneous conclusions drawn by another firm's seismic survey across the Madden structure, Bill's reliance on subsurface observations over the seismic data led him to persist in a drilling program that eventually led to the discovery of the giant (4 tcf) Madden gas field, which is still being developed today.

The next significant discovery arose from his involvement in his next public company, Rainbow Resources, founded by geologist and CEO Don Carpenter. Powered by initial financing of 50 cents a share, Carpenter, geologist Marv Keller, landman Chuck Shear, and Bill embarked on a development plan that, at least in one instance, seemed divinely inspired.

Keller had identified a structural anomaly in the central portion of North Dakota's Williston basin. Rainbow's discovery well in the Madison Formation came in abnormally high with strong oil shows—the log "made you drool," in Bill's words. Rainbow discovered 2700 ft of carbonate with hundreds of feet of pay, leading the company to believe it had a pinnacle reef formation. The promising discovery prompted the company to sell its eighth interest to Tiger Mike Davis for $10 million, who, in typical fashion, likewise sold for $10 million, but only

after carving out a 50% interest for himself. The Red Wing Creek field was truly from the heavens; the anomaly was an astroblehm, or, in common parlance, a meteor crater. That field has an estimated ultimate recovery of more than 40 MMBOE and is still being developed some 30 years later. At the end of the Rainbow Company in 1978 was a $19 per share stock sold to the Williams Companies; Bill signed a three-year non-compete contract.

Ironically, Williams' later departure from Denver allowed Bill to reacquire some of Rainbow's old office equipment, including a conference table over which Barrett Resources and Williams negotiated a Barrett Resources buyout for $2.8 billion some 20 years later.

The 1970s concluded with Bill top leasing lands in a new area for exploration, the Denver Julesberg basin. Several hundred wells were drilled en route to 200 bcf in gas reserves in the famed Wattenberg field, but more importantly, Bill observed the impacts of newly emerging massive fracturing technology.

Now understanding the potential of that technology, Bill launched Barrett Resources in 1981, and took the company public in 1983. He also took his ideas to the gas-rich Parachute, Grand Valley, and Rulison area in Colorado's Piceance basin after Exxon's abandonment of its oil shale experimentation in 1983. Flouting conventional geologic "wisdom" for the basin and applying massive fracturing technology, Barrett Resources developed 1.2 tcf of proven reserves and an additional 2–3 tcf of high-quality probably gas reserves. Today, the field is still being actively developed and is producing more than 225 mmcf a day.

Proving that "smooth seas don't make a great sailor," Bill's career has occasionally careened. All was going well, for instance, in the 500-bcf Cave Gulch field, the latest on a list of important discoveries, with its multi-zone discovery well. In 1998, a controlled blowout was encountered in the Muddy formation at 18,500 ft. Although production of 45 mcf/day was possible through the blow-out preventer, and with the substructure and mast still in place for nearly seven months, the tenuous situation nonetheless required around-the-clock monitoring, and on August 13, at two o'clock in the morning, the pumper on location encountered what sounded and felt like an earthquake below his feet. Fleeing from the fury beneath, he escaped as the ground erupted in its own hellish collapse, cratering the well site, rendering it virtually lunar, all the while flowing more than 100 mmcf/day. The area, fittingly, is in Hell's Half Acre, Wyoming.

All told, an estimated 11–15 bcf equivalent of proven reserves were lost in the 111 days the well blew wild. On January 9, Bill's birthday, he received news that the relief well had reached the Muddy, and placement of a cement plug finally killed the well.

Also during Cave Gulch development Barrett Resources got involved with Powder River basin nonconventional coalbed methane development. By partnering with Western Gas, the two companies acquired more than 1 million acres, tied up more than 4 tcf of potential gas reserves, and emerged as the largest coalbed methane producer in Wyoming.

Bill led Barrett into the new millennium with great results. Just after retiring a second time, both the *Wall Street Journal* and *Oil and Gas Investor* magazines had ranked the company No. 1 in creating shareholder wealth among oil and gas independents from 1990 to 2000. Every dollar invested in Barrett returned $9.25 that decade; the second-best performance was $5.38.

Though a second retirement included travel to Africa, Australia, and Europe, Bill's belief in the reserve potential of the Rockies, coupled with promising market conditions and technological innovation, have him leading this latest venture. On top of that, the thrill of discovery is every bit as alluring as it was in Salt Lake City 47 years ago.

Despite his professional accomplishments, Bill Barrett is also one whose gratitude for the opportunities he has had through the years is reflected in his awards and associations.

Present and past affiliations: AAPG Foundation Trustee Associate, Colorado's president for the Rocky Mountain Oil and Gas Association, Wyoming Oil and Gas Association, Rocky Mountain Oil and Gas Association, Utah Oil and Gas Association, Colorado Oil and Gas Association, Independent Petroleum Association of Mountain States, American Geological Institute, Independent Petroleum Association of America, United Way, Denver Museum of Natural History, Kansas State President's Club, advisory committee member for Kansas State Geology Department, and Ocean Journey Founding Contributor, among others.

Awards: Outstanding Explorer Award from Rocky Mountain Association of Geologists, Distinguished Service Award from Kansas State University, Kansas State University Alumni Fellow, William J. Barrett Fund for Excellence in Geology (established at Kansas State by his colleagues in Bill's honor), Wildcatter of the Year from Independent Petroleum Association of Mountain States, Company of the Year Award for Energy and Natural Resources from Colorado Association of Commerce and Industry, CEO Gold Award Winner in Oil and Gas Industry, and Denver Petroleum Club Man of the Year, among others.

Bill, Louise, their seven children, and 16 grandchildren all live in and around Denver, Colorado.

Citation—To William J. "Bill" Barrett, honored this date as an explorationist, entrepreneur, mentor, and friend. Your colleagues thank you for your contributions to geology, education, and business, and for providing a legacy for generations of geologists to follow.

Jim Felton

Response

I am honored by this award, and especially appreciate being recognized in this way by my peers. I also want to share this honor with those many individuals, mentors, co-workers, partners, association members, and most important, my family, all of whom helped make this award possible.

I know awards such as this one tend to be retrospective of one's past accomplishments, but it is the future of this business that keeps me excited. Geology and exploration have been a source of endless learning and

satisfaction for me both personally and throughout the history of my career. Looking forward, I see that, as an industry, our productivity and success are important politically as well, in terms of a domestic energy policy and national security.

Economic uncertainty is hurting our country, and those of us in energy know that the foundation of our economy is energy. It is what fuels the world's largest economy as well as the highest standard of living civilization has ever known.

Outside of our industry, most Americans have too often taken our ability to find, produce, and deliver cheap and reliable energy for granted. It seems many Americans do not consider the source of power when they boot up their computers, heat the barn on their ranch on a cold January night, or turn on the air conditioner when it is 100 degrees outside. I come from a Kansas farming background, and frankly some of these people remind me of those who think that food comes from the grocery store.

We've done too good a job at delivering energy and not a good enough job delivering the truth about the benefits of a healthy energy industry. I think that is one of three major challenges facing our industry today. As geologists, we share a responsibility to educate people about those many benefits.

To give you an idea as to what is at stake for a company like ours, the National Petroleum Council states that, of the estimated 388 tcf of gas reserves in the Rockies, approximately 85% (or 330 tcf!) remain untapped. The Rockies is the least explored region in the United States, containing the largest untapped resource base for onshore gas with an estimated 41% of the remaining possible reserves in the nation, this from a region where production is up fivefold since 1972.

When you factor in the advances in technology of all types and in all facets of operations, such as 3-D, drilling, fracture, stimulation, completion, production, etc., it becomes possible to commercially obtain larger and larger quantities of these resources. Again, that capability is crucial. Not only is demand for natural gas expected to grow 50% over the next 15 years, but also, given that it is virtually all domestic, it represents a source of energy stability in an increasingly unstable world.

What an opportunity!

Decades of experience show that opportunity and challenge are often different sides of the same coin, which brings me to what I see as our second challenge.

Although many of us are scientists first and foremost, an increasingly complex business environment has required many of us to become experts in areas we would have never before considered.

To wit: an onerous regulatory environment is resulting in longer approval processes and more stipulations resulting in shorter drilling windows. All the geologic work represented by AAPG does not mean much if the engineers are not allowed to extract the resource. The more time it takes to get approvals, the more lawsuits filed by environmentalists, and the more risks that come with longer approval processes, the harder it is for the smaller outfits and independents, who produce three-quarters of the gas in this country, to survive. I don't think any industry professional or consumer wants just a handful of huge companies to be the only industry participants. Many of our members are entrepreneurs as well as geologists, and the regulatory morass just makes navigating bankers, regulatory agencies, and competition in the course of a 60-hour work week that much harder. Entrepreneurs are opportunists. In our business, independents are often those who explore prospects the larger companies won't because of the big companies' higher overheads and heavier cost structures. Independents help create jobs, are often the first to apply new technologies, and keep energy delivery reliable and affordable. Affordable energy translates to healthier household income, and we all know the impact household income has on the economic health of this country. I urge you all to recognize that advocacy groups and organizations like AAPG need to work together like never before. This second challenge is not to merely understand but to manage an increasingly oppositional and obstructionist regulatory environment.

As I keep learning, I keep yearning for new discoveries. I can't think of a profession that is so promising with new discovery, whether geological or technological. And that is what has made an association like AAPG so valuable to me through the years—some of our most innovative ideas have come from AAPG conferences and colleagues. I hope we can continue to keep it as a true meeting of the minds in the future by incorporating efforts to bring more young people into our business, not only for the future of our industry, but for the future of our country.

Because, despite our reliance on geologic science as the foundation for our industry, it's still about people. Frac technology and seismic imaging are just the latest in a series of technological feats that are making us better as an industry, but someone had to harness the creativity and motivation of talented people to persist, despite the doubters, to develop that technology. Like money, it takes energy to make energy, and we all know that young people are great sources of energy. Our industry is not doing enough to pass on the passion, and the opportunity to mix the experience in this organization with the energy of our youth is a great one. Making the most of that opportunity is the third challenge facing our industry today. I look forward to working with you to meet these challenges, and thank you again for this wonderful honor and for your recognition.

William J. Barrett

ALBERT V. CAROZZI
Distinguished Educator Award

Albert V. Carozzi was born on April 26, 1925, in Geneva, Switzerland, the son of the Italian delegate to the League of Nations and a prominent surgeon. His father's expertise in the lung disorders of miners propelled Albert into the field of geology after he spent a summer identifying minerals in the diseased lungs of deceased coal miners.

Albert attended the University of Geneva, finishing an M.S. degree in 1947, and then graduating summa cum laude with a Dr.Sc. in geology and mineralogy in 1948. His thesis on the Upper Jurassic freshwater limestones in the Jura Mountains was the beginning of a long research career focused on the statistical petrology and environmental interpretation of carbonate and clastic rocks using a microfacies approach.

After graduation, Albert lectured at the University of Geneva in sedimentary petrology and micropaleontology. He first went to the University of Illinois at Champaign-Urbana as an assistant visiting professor of geology in 1955, then accepted a permanent position and was appointed full professor in 1959. Since 1989 he has been a professor emeritus in the Department of Geology.

Albert is a sedimentary petrologist in the spirit of Lucien Cayeux and Henry Clifton Sorby. He is recognized as a leader in the petrology and petrography of carbonate rocks through his more than 300 publications and textbooks. His first text, *Pétrographie des Roches Sédimentaires*, was published in 1953, and later work includes *Microscopic Sedimentary Petrography* in 1960 and 1972, *Practical Classification and Microfacies Analysis of Carbonate Rocks* in 1987, *Carbonate Rock Depositional Models: A Microfacies Approach* in 1989, and *Sedimentary Petrography* in 1993. His contributions to geology include the English translation of the works of Agassiz, Cayeux, de Saussure, Lamarck, and Werner, as well as series of general science education texts, with his wife, Marguerite Carozzi.

Albert was imported by the University of Illinois to bring the then forefront concepts of Alpine geology and structure to students on the flat plains of central Illinois. He first taught structural geology, Alpine structural geology, geotectonics of the world, historical geology, and the history of geology. With time, his teaching repertoire focused more on sedimentary petrography, both introductory and advanced courses, and depositional models for petroleum exploration. He also disseminated knowledge by serving as an AAPG distinguished lecturer, and instructor for AAPG short courses.

Students remark about Albert's eloquent lecture style, his energy and infectious enthusiasm for teaching, his wit, and his breadth of knowledge, particularly the wonders of petrography. His petrography lectures were legendary in that he taught in the dark, projecting thin section after thin section and forcing student audience members to describe on the spot. In the laboratory, he individually taught students by personally checking descriptions, challenging them to observe and interpret. This one-on-one interaction was the hallmark of his teaching style. Although students may have entered his course as igneous, metamorphic, or structural geologists, each student walked out of his class as a sedimentary petrographer, with observational skills that they could apply to all rock types and any scale of geologic problem. His extensive thin-section collection served as proxies for global field trips and introduced students to global geology. It is no wonder that those of his students who entered academia patterned their teaching styles after his.

During his tenure at Illinois, Albert supervised 34 Ph.D. and 16 M.S. theses, the majority concerning the microfacies of Paleozoic carbonate rocks. He spent many hours guiding students through the rigors of researching and writing their theses, a particularly arduous task for his many international students. Although Italian in ancestry, Albert was indeed Swiss by nature in that order and discipline were the norm, from his office to his lectures to his collections. His mantra to students was, "Organization is the key to success." Indeed, many (those who listened?) of his graduate students went on to successful careers in the petroleum industry, academia, and government.

Most will say the highlights of their graduate experiences were the social events at Albert and Marguerite's home. These were filled with international food, music, dancing, and spirits and often capped by tours of his home museum, which included minerals and native artifacts collected during his global travels. These parties provided a glimpse of the legendary "wild man" known by those who worked with Albert in the field. Perhaps this precipitated his appointment as a Kentucky Colonel by the Kentucky State Legislature, home state of his drink of choice.

Albert was a commonly sought after consultant in the international petroleum industry. He worked with more than 20 petroleum and engineering companies on the development of petroleum and mineral resources and engineering geology projects in South America, Africa, Europe, the South China Sea, and the Philippines. He taught more than 60 workshops, short courses, and formal academic courses to petroleum geologists and engineers across the globe. His international influence and stature is also indicated by his invited professorships at the Federal University of Ouro Preto, Minas Gerais, Brazil, and the University of Poitiers, France and his honorary membership in the Geological Society of Bolivia. Albert is the master of many languages, having formally lectured and published in many of them.

As a professor emeritus, Albert has been able to dedicate more time to his passion for the history of geology. He is a recognized authority on the history of 18th century geology, and his contributions have won him the History of Geology Award from the Geological Society of America in 1989, the first Marc-Auguste Pictet Medal for excellence in the history of science from the Société de Physique et d'Histoire Naturelle de Genève in 1990, and the Prix Wegmann from the Société Géologique de France in 1999. Albert's success is due in part to his brilliant and devoted wife of more than 50 years, Marguerite Carozzi, a partner in life as well as in his dedication to chronicling the history of geology.

Citation—To Albert V. Carozzi, scientist, scholar, and mentor, for emphasizing the fundamental importance of meticulous microscopic observations to unraveling large-scale geological processes.

Kathleen Marsaglia

Response

I am delighted and honored to have been nominated for the Distinguished Educator Award. Education raises the question, "What does it take to become a good teacher?" I would answer opportunities and great enthusiasm.

Teaching is a continuous and rewarding interaction between instructor and students. It is a life-long experience during which the major burden lies on the teacher who has to adapt his lecturing to the social background, the educational level, and the nationality of his students. For instance, at the University of Geneva as an undergraduate in geology, my fellow students taking geology as a science requirement asked me to organize evening sessions repeating the lecture of the day and coaching them for the forthcoming final exam. This was my very beginning as a teacher, in fact it was teaching while I was taking the same classes myself.

Then, I was asked to join the staff of the International School of Geneva, a high school created by the diplomatic community in Geneva and still of high reputation today. For almost 10 years I taught physical geography and beginning geology with a touch of cosmography to kids of diplomats from all over the world. This was certainly a unique training ground for a young teacher and also a welcome supplement to my meager income of teaching assistant and even of lecturer later on. Furthermore, a tradition of Geneva has always been to educate the working class. The most effective way was by means of an institution called the "Popular University," consisting of evening classes and which attracted a wide audience to which I taught physical and historical geology.

Meanwhile, who could forget the Swiss Army? I belonged to the topographers controlling during yearly exercises the fire of batteries of heavy cannons located in the plains and aiming at glaciers in the Alps. We were dug-in at the foot of the targets high up in the mountains, sometimes marooned above the fog for days at a time when the batteries could not shoot and I could happily teach my commanding officers the beauty and significance of overthrusts and glacial features. Next came exploring caves in the Jura Mountains and the High Calcareous Alps with a small group of youngsters, many of whom had only a grade school education and therefore lacked the opportunity to learn how to observe. I gave them lectures on physical geology, founded the Swiss Speleological Society, and wrote for them a field manual as a pocket book systematically suggesting basic geological, physical, and biological observations they could make.

This was also the time when Switzerland was developing hydroelectric power by constructing dams in the major lateral valleys of the Alps. Civil engineers, not well aware of geological problems, required the continuous input of geologists to avoid making catastrophic mistakes. Mapping foot by foot the excavation of tunnels and shafts, while mapping, sampling, and teaching geology to engineers was an exciting but dangerous experience for me. However, this job was very well paid because of the risks involved, and it allowed me to prepare my forthcoming American experience. Indeed, foreign geologists after the World War II were eager to visit the Alps, and I was delighted to act as a guide. First, John C. Crowell, Charles M. Gilbert, John E. Sanders, and Ralph E. Grim came. Then Philip H. Kuenen who developed the concept of turbidity currents and was excited to find turbidites and debris flows in the Flysch deposits all over the Alps about which my repeated papers had remained ignored by Swiss geologists. We wrote together in the Journal of Geology in 1948; it was my first paper published in the United States. Ralph E. Grim in particular opened for me the land of opportunity and by 1955 I started teaching at the University of Illinois until my retirement in 1989, when I began to work exclusively on the history of geology. These 34 golden years allowed me to teach physical and historical geology, structural geology, and geotectonics, but mainly microfacies techniques and carbonate depositional models to many outstanding graduate students. I am very grateful to them, in particular to Kathleen Marsaglia and Bill Dawson for their devotion to pursue relentlessly the procedure leading to this award.

The AAPG came early in my activities when I was in 1959 a Distinguished Lecturer. This fascinating experience brought me in contact with professional petroleum geologists all over the country. Immediately thereafter, major oil companies became interested in my microfacies approach, and thus I started a parallel profession as independent consultant. This double activity was facilitated by the very open attitude of the University of Illinois higher administration and the willingness of my best graduate students to take over classes during my travels. I was fortunate to deal almost entirely with national oil companies, starting with France and continuing with West Africa, followed by Brazil, Venezuela, Bolivia, Peru, Argentina, the Philippines, and the South China Sea. Combining short courses with fieldwork and drilling was a very fruitful formula for all concerned, including local universities. In each of these countries a book on our microfacies studies was published in their own language, illustrating often lavishly all the results and making them available to the entire profession. Bringing back to the University of Illinois oil-dripping cores from offshore

platforms in million-barrel fields I had helped to find, like in the Campos Basin, offshore Brazil, was an academic sensation and a marvelous practical experience for my graduate students.

Who else do you want me to teach now? My beloved wife has the answer: our grandchildren George and Simone. Thank you.

Albert V. Carozzi

FRANK G. ETHRIDGE

Distinguished Educator Award

In the spring of 1992 Frank Gulde Ethridge attended the graduation ceremony of the 50th student to graduate with an advanced degree under his mentorship. Prior to leaving for Houston and a job with a major hydrocarbon company, the student asked Frank for his words of wisdom toward success. Frank said, "Don't buy a lot of furniture." I will guess that was Frank's way of saying, "Be ready for change." Moving is sure a lot easier without three couches to lug around. Such jewels of wisdom spilling forth from Frank have endeared him not only to the 67 graduate students that he has mentored in his 32 years of teaching, but also to hundreds of undergraduate students, fellow educators, and peers in industry and government.

Being born in Vicksburg, Mississippi, on the banks of the Mighty Mississippi River predestined Frank to become a world-renowned expert in the research of fluvial and deltaic depositional systems. After earning a B.S. degree in petroleum geology close to home at Mississippi State in 1960, Frank spent five months becoming the first human MWD (measurement while drilling) when he was lowered into a small borehole drilled in preparation to build DeGray Dam in Arkansas and asked to log the hole from the bottom up. He truly made it to the outcrop ahead of the crowd. It was shortly after this that Frank was commissioned as an officer in the U.S. Army, where he served three years disarming artillery shells and bombs. After his discharge from the Army, he returned to school at Louisiana State University (LSU) and studied sedimentology under his advisor John Ferm.

After receiving his M.S. in geology in 1966, Frank had a short but glorious job with Chevron in New Orleans as a production geologist. After two years in big oil, Frank decided to return to school and enrolled at Texas A&M under the advisorship of David K. Davies, a former LSU classmate. Frank's research with Davies resulted in several papers in the early 1970s on recognition of barrier island and deltaic environments, including a paper in the classic publication by the Houston Geological Society, *Deltas: Models for Exploration*, published in 1975 and edited by M. Broussard. Frank's Ph.D. research focused on the use of statistics in interpreting sediment samples and defining clastic depositional environments. This research was published in the *International Association of Mathematical Geologists Bulletin*, *Journal of Sedimentary Research*, and *AAPG Bulletin*.

Upon graduation from A&M with a Ph.D. in geology in 1970, Frank accepted an assistant professorship at Southern Illinois University (SIU) in Carbondale. He was promoted to associate professor in 1974. During his tenure at SIU, Frank and his students contributed several important publications to the body of literature on the Carboniferous of southern Illinois, the Cambrian of southeast Missouri, and the modern sedimentology and petrology of rivers in both Missouri and California. Several of his students at SIU have gone on to prestigious positions in industry and government.

In 1975, Frank and his wife Syliva moved to Fort Collins, Colorado, where Frank accepted a position as associate professor in the Department of Earth Science at Colorado State University. They would remain in Fort Collins for what is now 27 years, where they raised three children—Sandra, Chris, and Lisa—and continue to enjoy their two grandchildren. Frank's first Ph.D. student at CSU was William A. Wescott. Frank and Bill Wescott initiated a research program in Jamaica that would result in the seminal paper on the Yallahs Fan Delta. Today, this paper is recognized as the earliest work documenting the sedimentology, depositional setting, and character of fan deltas. With his move to CSU, Frank began a friendship with his fellow departmental professor Stan Schumm that would result in numerous collaborations in experimental fluvial geomorphology. In the late 1980s, Frank and Stan began a line of research in experimental modeling of shoreline and deep-marine systems that would result in several large research grants for a number of students and publications that would challenge the paradigm of how depositional systems respond to changes in sea level. Their research formed the foundation for experimental modeling of depositional systems being done today throughout the world. In addition, Frank mentored numerous students in master's, doctoral, and undergraduate research that contributed immense amounts of knowledge regarding the sedimentologic and structural history of the Rocky Mountain region. Frank was promoted to full professor in 1981. His students hold positions in industry, government, and academia and have themselves made significant contributions to the field of geology and to the success of the companies and organizations that they are involved in.

Frank has built a worldwide reputation as a leader in the study of fluvial and deltaic depositional systems. In 1993, he was a visiting professor of geology at the University of Aberdeen, King's College, Scotland. He has visited outcrops in North Africa, Europe, the

Caribbean, Venezuela, and all across the United States from the East Coast to the Alaskan wilderness. He has taught courses in industry, both domestic and abroad, and presented invited talks too numerous to note. He has published more than 65 papers in regional, national, and international peer-reviewed journals and led countless field trips for everyone from undergraduates to teachers to industry professionals. In 1994, he and his co-authors received the award for Best Paper published in the Journal of Sedimentary Research. Frank's service to the societies of his profession has spanned decades. He has spent 25 years as a member of the Rocky Mountain Section of SEPM, where he has served in every capacity, including secretary, vice president, and president. He has been a career-long member of AAPG, International Association of Sedimentologists, Rocky Mountain Association of Geologists, and SEPM. In each of these organizations he has served on numerous committees, edited hundreds of manuscripts, and co-chaired numerous technical sessions at society meetings. In 1998, Frank was named an Honorary Member in SEPM (Society for Sedimentary Geology) for his life-long scientific, educational, and service contributions to the SEPM organization.

All of the aforementioned achievements document Frank Ethridge's obvious contributions to the science of geology and to the health of the profession in the world. However, this award is not given for those attributes of Frank Ethridge that can be documented in a resume. This award is given to reward the type of selfless concern for others' success that is shown when a professor can put aside his own ambitions to see his students succeed. It is given to the type of professor who can express joy when seeing an award-winning publication first-authored not by himself but by his student. It is given for the excitement that a mentor shows at knowing that his students are excelling in industry, leading government energy organizations, or gaining awards of their own academic research grants. I personally think that Frank Ethridge exemplifies the character that this AAPG Distinguished Educator Award was envisioned to recognize. The fact that his students nominated and supported his nomination for this award reflects but a small measure of the respect that they have for what he has given to them. This award is the third honor for excellence as an educator Frank has received in the past eight years. Others include the Burlington Northern Faculty Achievement Award for Outstanding Performance in Graduate Education in 1994 and the Jack E. Cermak Outstanding Advisor Award for the CSU College of Natural Resources in 1997.

"FredPet," as his students know him, is a role model for professors everywhere that you can give selflessly to students without compromising your own scientific achievements. He has taught the highest ethics and scientific learnings to hundreds of students and in so doing has fostered a legacy that will endure well beyond his eventual retirement.

It is with great humility and honor that I write this citation for Frank, since there are countless former students and friends that would jump at such an honor.

Citation—To Frank G. "FredPet" Ethridge, for his innate ability to excel in his own career while selflessly contributing to the success of so many others. An educator's influence reaches far beyond his own office door.

Lesli J. Wood

Response

I am deeply honored to receive the AAPG Distinguished Educator Award for the year 2003 and thank the Executive Committee and the Awards Committee. Thanks also go to Grover E. Murray and his wife who proposed this award and continue to support it. Special thanks go to Lesli Wood for setting the wheels in motion and for her flattering and exaggerated biography.

First and foremost I thank my wife Sylvia for her unwavering support in whatever endeavor I decided to undertake. She was always there for our family and me and made it possible for me to pursue my interests in geology, teaching, and research without concern for her own goals. I also thank my daughters, Sandra and Lisa, for their support and patience over the years and for not complaining too much when we stopped to view another rock outcrop while on numerous so-called vacations. I am most grateful to my son Chris, who, before he died, taught all of us the importance of challenging ourselves and giving of our time and energy to others without any expectation of recognition.

I believe that I knew from an early age that I wanted to be a teacher and a geologist. I remember collecting fossils and sharks' teeth with my father in Moody's Branch Marl just outside Vicksburg, Mississippi. As a junior in high school, I spent a year studying to become a teaching brother; however, the vow of obedience soon got to me, and I returned to the banks of the Mississippi River to finish my high school education. My interest in geology was enhanced by the late Charles Kolb, a good friend and mentor who supervised the geology branch of the U.S. Army Corps of Engineers Waterways Experiment Station. I am grateful for my geological education at Mississippi State, LSU, and Texas A&M and to the many professors who challenged me to do my best.

On the way to a lifelong teaching career I was sidetracked by three years in the U.S. Army and two years with Chevron in New Orleans. Both experiences were important in molding my future as a college professor. I am grateful to Amoco Production Company and several other companies for allowing me to teach industry short courses and guide field trips for a number of years. These opportunities permitted me to keep up with trends in the petroleum industry and learn practical information from professional geoscientists that I was able to incorporate into my university teaching.

One thing that has become abundantly clear to me is that while the rocks rarely change in our lifetimes, our interpretations of them certainly do. As an example, in the early 1970s we were teaching process sedimentology, classic stratigraphy, and knew little about the importance of diagenetic cements in sandstones. By the 1980s and 1990s, new ideas regarding unconformities, sequence

stratigraphy, and diagenetic cements brought about revolutionary changes in the way that we interpret sedimentary successions, the evolution of sedimentary basin fills, and the characteristics and distribution of hydrocarbon-bearing sandstone reservoirs. It has been an exciting and challenging time for stratigraphers and sedimentologists offering many new opportunities for research projects. These projects ranged from studies of modern environments in Jamaica, Texas, and Nebraska to outcrops and oil fields in the mid-continent, Rocky Mountains, Alaska, California, Oregon and in a number of other countries to analog flume experiments on the effects of base-level change. Undertaking these various research projects with graduate students and colleagues has made them especially valuable experiences. To keep our students marketable, it has also meant that I must continue to update my classes and develop new ways to challenge them.

As a teacher and researcher, I am certain that I have learned far more from my students and colleagues than I could ever give in return. Occasionally, I return to a familiar outcrop in Colorado, Wyoming, or Utah with students and/or colleagues only to have them point out something new to me that I did not see on the first 10 visits. Usually this resulted in a reinterpretation of the depositional environment of the rock unit. In my 32 years as a teacher, I have been fortunate to supervise many outstanding undergraduate and graduate students who have gone on to successful careers and who have made significant contributions to our science. I am proud to know many of them as lifelong friends and colleagues. They often took my advice to challenge my observations and ideas or bring new observations and ideas to an old problem. If I am, in any way, a better teacher or scientist than I was 32 years ago, it is because they have gladly shared their knowledge, skill, hard work, and passion for the science. This, of course, is what makes it all worthwhile.

Frank G. Ethridge

WAVERLY PERSON

Special Award

Waverly Person completed his undergraduate work at St. Paul's College is Lawrenceville, Virginia, and graduate work at the American University and George Washington University in Washington, D.C. He received an honorary Doctorate in Science from St. Paul's in 1988.

Waverly began his career in the Federal government with the Department of Commerce (Coast and Geodetic Survey) in Washington, D.C. In 1966, he helped establish the National Earthquake Information Center (NEIC) in Rockville, Maryland Coast and Geodetic Survey. He was involved in many new developments in the Earthquake Early Reporting System, which was designed to inform disaster relief agencies, scientists, and the general public of potentially damaging earthquakes worldwide within two to three hours. They also published earthquake reports such as the *Preliminary Determination of Epicenters* and monthly summaries.

In the early 1970s, the NEIC was transferred from the Department of Commerce to the Department of the Interior, U.S. Geological Survey in Golden, Colorado. Waverly has worked in earthquake studies for more than 30 years, and currently serves as the chief of National Earthquake Information Service, as the spokesperson for the Department of the Interior, U.S. Geological Survey National Earthquake Information Center. He has earned an international reputation as a scientist who reports accurate and timely information about damaging earthquakes around the world, and has broadcast earthquake reports in the United States and many foreign countries.

Waverly has received many awards during his career for contributions to his field. In 1988, he received an award from the National Association of Government Communicators as an outstanding government communicator for conveying earthquake information to the public. He also received the Meritorious Service Award given by the Department of the Interior in 1989. He received an honorary membership to the Colorado School of Mines Alumni Association in 1991 for scientific contribution to the school.

Waverly was featured in *Ebony* magazine in 1986 as the first African-American geophysicist in earthquake studies, received the Annual Minority Award in 1990 for outstanding contributions in science from Boulder County, and was listed in *Who's Who in Black America, 1990-91*. In October 2001, he was one of three African-American scientists in the United States chosen to be honored by the History Makers, an organization that looks for African Americans who have made contributions to their country despite the difficulties encountered during their careers. He has had articles written about him in various publications, and appeared in a feature story on KCNC-TV, Denver, Colorado. Waverly has been author or co-author of many publications on earthquakes.

Waverly resides in Boulder, Colorado, with his wife, Sarah, who is a retired teacher in the Boulder Valley school system.

Citation—To Waverly Person, scientist, author, and communicator, for his contributions to the field of earthquake studies and establishment of the National Earthquake Information Center.

Response

I feel highly honored to be recognized for my work in earthquake studies over so many years with the

Department of Commerce, and the U.S. Geological Survey, National Earthquake Information Center. To be among so many great people being recognized by this organization for their contributions to our country, words cannot express my appreciation and gratitude to you for this great honor. Thank you so very much.

Waverly Person

C. ELMO BROWN
Public Service Award

Elmo Brown was born in Austin, Texas in 1953. His father was an operations manager at a local television station, and his mother was a computer programmer. He was influenced early on by travels around the western United States and Mexico with his family and with the Boy Scouts. He obtained an interest in science from his stepfather who had a background in the natural sciences and had worked for a time on a seismic crew in Somalia.

Elmo elected to attend the University of Texas in Austin and during his sophomore year took a geology class that seemed to be a natural fit for his interest in the outdoors. He received a Bachelor of Arts degree in geology in 1976 and elected to stay at Austin for graduate work toward a Master of Science degree. In 1984, he published the results of his study on the facies relationships of the Permian–Pennsylvanian Sangre de Cristo Formation in a New Mexico Geological Society Guidebook.

In 1979, Sonny Peterson of Placid Oil Company hired Elmo to work in the company's Denver office. As with many young geologists at the time, he started out doing well-site geology. Later, as an area geologist, Elmo worked virtually every basin in the Rocky Mountain region gaining a vast amount of experience.

While at Placid, Elmo had the good fortune of forming a strong friendship with the office manager and his future bride, Kathy. They were married in 1984 and, ironically, were laid off the same day in 1987, when the Denver office closed.

Elmo was an independent geologist from 1987 to 1990, generating prospects and getting several successful wells drilled. In 1993, he received his teaching certificate from Metropolitan State College and began teaching science to Denver-area middle and high school students. In the mid-1990s, he returned to the oil business as a consulting geologist and is now the owner of TREX Geologic Consulting, Inc.

Elmo is not only known for his work in the Rocky Mountain region, but is also widely recognized within the geoscience community for his commitment to public outreach and education.

Elmo's service to the Rocky Mountain Association of Geologists (RMAG) has a long history. He has been on the RMAG Board of Directors three times: as secretary (1990), treasurer (1998), and first vice president (2001). He is a past chairman of the Popular Geology, Finance, Membership, Employment, and Ballot committees. In 2002, while chairing the Publications Committee, Elmo coordinated the program to digitize all past RMAG publications for eventual distribution to the membership. He continues to be actively involved in community outreach through the Popular Geology Committee. During his years with this committee, he has been integral in the rejuvenation of the RMAG guest speaker program, the development of a geologic display at the Red Rocks Visitors Center in the foothills west of Denver, and the institution of the RMAG Teacher of the Year Award. Elmo has also been involved with area schools in poster and curriculum development, career days, and the delivery of classroom presentations. In 1999, Elmo was given a Distinguished Service Award for all his past contributions.

Elmo has served AAPG in the House of Delegates as an alternate and is currently on the Public Outreach Committee. He has been an Active member since 1980.

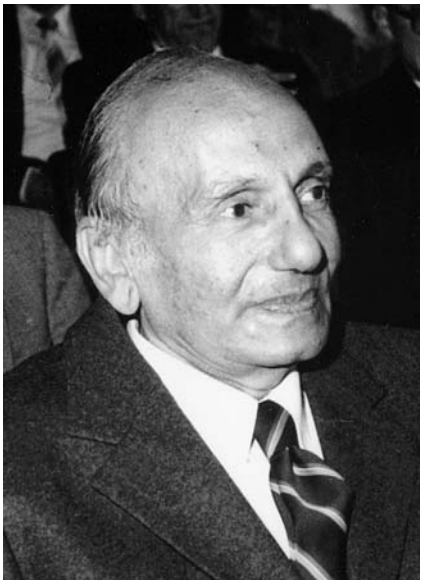
Elmo has been involved for several years with the Friends of Dinosaur Ridge, a group formed to protect and develop the dinosaur track ways and bones exposed in the Dakota Hogback west of Denver. Elmo has conducted simulated fossil digs for children during Dinosaur Discovery Days. He is also an instructor for weeklong summer science camps for 10–13 year olds and helped develop an overall learning curriculum, which includes a game about oil and gas exploration that stresses geologic and business skills.

Elmo has also been active in community affairs. He and his wife co-edit the *Silver Spurs Ranch News*, a quarterly newsletter for property owners in the Raton basin in southern Colorado. Politically, he has served as a precinct committeeman and a delegate to county and state conventions.

Elmo's engagement in public service is predicated on the belief that one should always reach out to improve one's profession and community.

Citation—To C. Elmo Brown, in recognition of many years of tireless and dedicated public service to the geologic profession.

John W. Robinson



RUSHDI SAID
Pioneer Award

Born in Cairo, Egypt in 1920, Rushdi Said was educated at Cairo, Zurich, and Harvard universities (B.Sc. [first class honors] 1941, Cairo; M.Sc. 1944, Cairo; Ph.D. 1950, Harvard). During his years of graduate study he was a teaching assistant at Cairo University (1943–1945) and Harvard (1949–1950). After receiving his doctorate degree he became an assistant professor at Mount Holyoke College (1950–1951) and a research fellow at the Woods Hole Oceanographic Institution (summers 1950–1952).

Upon his return to Egypt in 1951 he joined the faculty of Science, Cairo University, and remained on its staff until 1968. In 1966 he was promoted to the chair of General Geology. During his years at Cairo University he conducted an extensive research program that helped lay down the foundations of modern Egyptian geology and resulted in many publications and ultimately in his well-known book *The Geology of Egypt* (Elsevier, 1962). This book was translated into Russian in 1965 and rewritten in 1990.

From 1968 to 1978 Rushdi was head of the Geological Survey and Mining Organization of Egypt, where he left a lasting impact. The Survey was reorganized and transformed into a modern research institution with field parties in all corners of the desert carrying out an extensive research program and using complex advanced exploration methods.

Since 1962 Rushdi has been interested in the study of the recent geological history of Egypt and the Nile, which led him to the field of prehistory and the publication of many papers. His work on the Nile was systematized and included in two books: *The Geological Evolution of the River Nile* (Springer, 1981) and *The River Nile: Geology, Hydrology and Utilization* (Elsevier, 1993).

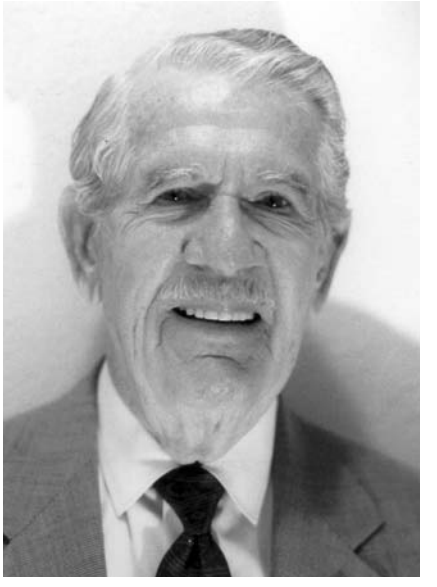
From 1978 to 1995 Rushdi was an international consultant. He worked for and was retained by governments as well as by many major oil companies. His work carried him to all corners of the world, touching mainly on oil and water exploration and utilization as well as on environmental problems. During that time he was associated with the Southern Methodist (Dallas, Texas) and Berlin Technical universities, where he occupied the position of senior research associate and adjunct professor. He was a fellow of the Institute of Advanced Studies in Berlin during the years 1989–1990 and 1995–1996.

Rushdi is a founding member and past president of the Geological Society of Egypt. He was elected to the following positions: Membre Institut d'Egypte (1967), Member of the Egyptian Academy of Science (1968), Fellow of the Third World Academy of Science (1994), Honorary Fellow of the Geological Society of Africa (1980). He holds the Science and Arts Medal (First Order) of Egypt (1962). He was elected a member of the board of the International Geological Correlation Program (1973–1976), was given a citation from the Institute for the Study of Earth and Man, Southern Methodist University (1983), and was awarded an honorary doctorate degree from the Technical University in Berlin (1986).

Rushdi is an emeritus member of the AAPG, which he joined in 1951. He has been a member of its House of Delegates (1975–1976) and an associate editor of its *Bulletin* (1971–1980).

Citation—To Rushdi Said, distinguished scientist and teacher, whose contribution to the geology of Egypt and the Middle East opened up vast areas of application in the field of petroleum geology.

Coy H. Squyres



ROBERT M. "SANDY" SANFORD
Pioneer Award

Robert Marne Sanford was born in Ruthven, Iowa on June 15, 1918, and grew up in Eagle Grove, Iowa, where his father was a high school teacher and coach. A strong religious background, a good high school athletic career, and family associations combined to draw Sandy to north Texas. He planned to work through school, play a little football, study geology or theology, and perhaps live with relatives. An early conflict in scheduling at Southern Methodist University was offset with a seemingly better arrangement at Texas Christian University (TCU), so Sandy worked his way through TCU with part-time jobs, including one as an *Oil and Gas Journal* reporter. Upon graduation with a bachelor's degree in geology in 1940, Sandy became district editor and soon was transferred to Shreveport before enlisting in the Army Air Corps, where he got his pilot's wings and became an instrument pilot instructor.

After WW II, Sandy's hunger to be a participant in active exploration resulted in working for Standard of New Jersey on a field party in Peru,

and thus an international geological career was started. He did canoe and outboard motorboat work on rivers of the Andean foothills as well as mule and donkey exploration in the mountains during the jungle wet season with geologist Axel Olsen. Four years later he went to Saudi Arabia with Aramco, where the geological evaluation mapping was in northwestern areas of Great Nafud, Jauf-Sakaka, and westward to near Medina and Mecca.

The Brazilian work started when legendary Everett DeGolyer's consulting firm hired him for assignment to the Brazilian government's National Petroleum Council. Sandy became district geological manager of south Brazil's vast Parana basin, where he did jeep reconnaissance/air photo mapping. He was one of several "one basin/one man" geologists in Brazil's many basins.

In about 1954 the Brazilian government brought another legend, A. I. Levorsen, to Brazil to review the progress in each basin. Levorsen recommended that much more extensive work than "one basin/one man" was needed to really evaluate them. The consequence was formation of Petrobras, which then hired Walter K. Link from Standard Oil (New Jersey) to be exploration manager of this new national oil company. His extensive knowledge of worldwide exploration people and contractors resulted in complete reorganization of exploration. Sanford moved from district geologist to Brazilian subsurface manager in Rio de Janeiro, where he remained until 1962 when the family returned to the United States.

He joined Hunt International Petroleum and helped find several billion barrels of oil for legendary H. L. and sons Bunker and Herbert Hunt. Perhaps his main claim to fame was convincing Hunt and partner British Petroleum to not abandon but continue step-out drilling at Sarir field in Libya after Sandy reinterpreted the few marginal wells, the seismic, the subsurface geology, and the several dry attempts made before his employment. Sarir is truly a world class giant with more than 5 billion barrels of recoverable oil.

Sanford is largely credited with the south New Zealand shelf play (Tatum, 1997, Dallas Geological Society Newsletter, September), which found several trillion cubic feet of gas in the 1980s too deep (2000 feet of water) and too far (200 miles from land) to be commercial. Later, Sandy contributed substantially to Hunt's Placid Oil success in discovering the several trillion-cubic-feet gas fields of Blocks L-10 and L-11 off Holland in the North Sea.

Sandy was the geologist behind Hunt's Beaufort Sea activity in northern Canadian waters due to acquiring choice blocks early in the play. Sandy had worked with Dome Petroleum's president Jack Gallagher in Peru in 1946, and through the renewed acquaintance Dome Petroleum drilled some of these Hunt prospects to earn interests in the blocks. Several billion barrels of recoverable oil were found and more indicated, but again, the price wasn't right for economic development. Perhaps soon!

Sanford's geological guidance led the Hunt companies to block acquisition and/or wildcat drilling in Australia, South Africa, Mozambique, British North Sea, Argentina, South Vietnam Shelf, Indonesia, Bering Sea Shelf, and geological studies in many other countries and offshore shelves.

This is the career of a successful geologist who participated in numerous big plays all over the globe. Not content to rest on these laurels, he has been active as an international consultant for 20 years. His contributions to geoscience have been through several papers and lots of action in getting significant wells drilled. These added substantially to the world's oil reserves and our understanding of large geological traps.

Sanford has been an AAPG member since 1954 (currently Emeritus) and was certified by the Division of Professional Affairs in 1966 (CPG 517). He also supports AAPG as a Trustee Associate. He has been a long-time member of the Geological Society of America, was a Penrose Conference participant in 1964, and is a long-time member of the American Association for the Advancement of Science, Society of Petroleum Engineers of the AIME (since 1959), Society of Exploration Geophysicists, the Explorers Club, and the Dallas Geological Society (DGS). His publications include petroleum-focused papers on south Brazil (AAPG Bulletin v. 44, no. 8), Sarir field, Libya (AAPG Memoir 14) and south New Zealand offshore (Oil and Gas Journal, 4 Feb 1980) plus geothermal-oriented papers including Elephant Butte prospect in New Mexico (Geothermal Resources Council, 1979). DGS conferred their Professional Service Award on Sanford in 1997.

Sandy is active in his church and is a strong supporter of programs at TCU where he established the Sanford Scholarship. His challenging experience of obtaining an education during the Depression has strengthened his resolve to help others.

We honor Sandy today for his significant and long geological career, which brought benefits to many all over the globe.

C*itation*—To Sandy Sanford, intrepid geologist, who contributed substantially to geology and the discovery of petroleum through worldwide exploration.

Patrick J. F. Gratton

NORBERT E. CYGAN
Distinguished Service Award

Norbert E. Cygan is a fine example of individuals who have distinguished themselves in service to AAPG. He is an inspirational teacher who has used

his ability to enhance the understanding of geoscience to colleagues, teachers, students, and his community. His beneficial long-term service to AAPG spans 35 years, the latter 25 years dedicated to AAPG educational activities.

Cygan was born and raised in Chicago, Illinois, and earned three degrees from the University of Illinois. After service in the U.S. Navy, he taught three years at Ohio Wesleyan University. Upon receiving his Ph.D. in paleontology/stratigraphy from the University of Illinois in 1962, he joined Chevron Oil Co. and advanced in numerous technical and managerial positions in mining and petroleum until retirement in 1990. The last seven years with Chevron he was in charge of organizing and teaching their stratigraphic course and leading field trips in various geologic provinces for hundreds of geoscientists.

His service to AAPG started in the late 1960s when Chevron asked him to be a representative on the AAPG Information Committee and later in 1970 with the Convention Coordination Committee. Cygan became quite involved with the Energy Minerals Division (EMD) in the early 1980s, serving in an official capacity as secretary/treasurer, vice president, and then president in 1984, during a critical time for EMD. Subsequently, he chaired the EMD Nomination Committee and the Education Committee.

Cygan's interest in geoscience education grew rapidly in the 1970s, beginning with his participation in the Visiting Geologist Program. He served one year as a member of the AAPG Advisory Council and then three years on the Academic Liaison Committee with Charlie Dodge as chairman. It was quite a challenging and rewarding experience. He then served the AAPG on their Petroleum Geology Curriculum Project in 1986, as well as the ad hoc Secondary Education Opportunities Committee, followed by the American Geological Institute K–12 Project.

Cygan's involvement in the AAPG Youth Education activities continued to grow in the early 1990s. For several years, he was interested in developing an AAPG teachers and students program at annual AAPG conventions. He succeeded in 1990 with the first Teachers/Students Educational and Field Trip Program. He continued with this program and was the Teachers Program chairman and Field Trip leader at the 1994 Annual Convention. He also served on the organizing committee to establish the Teacher of the Year Award. These successful programs have continued ever since. From 1998 to 2001, he chaired the Youth Education Committee and organized the Summit on K–12 programs at the 2000 AAPG Annual Convention.

Continuing his quest for geoscience education of teachers and students, Cygan has been a longtime member of the Friends of Dinosaur Ridge. This unique organization helps teach 20,000–25,000 school children and teachers across the Denver metropolitan area annually about earth science and prehistoric life. It has been a successful program for years, where children and teachers learn from the past and view firsthand the process of science in the present.

Cygan was honored with the AAPG Certificate of Merit in 1990 and 2001, and in 1995 was presented with the Public Service Award for his contribution as an AAPG member in public affairs. He is currently on the Public Affairs Committee of the Rocky Mountain Association of Geologists, and is an American Geological Institute Earth Science Week Coordinator.

His love of geoscience education keeps him involved in teaching at the University of Northern Colorado, Colorado School of Mines, and Regis University, where his courses always include "Energy from the Earth."

We are most pleased to present to Norbert E. Cygan the Distinguished Service Award.

Citation—To Norbert E. Cygan, in recognition of his long-term commitment to AAPG.

James R. Baroffio

DONALD W. LEWIS
Distinguished Service Award

In mid-summer of 1959 when Don Lewis stepped ashore from a floatplane to join my Chevron field party on the Arctic Slope, he brought the same cheerful, forthright, can-do attitude that has characterized his many efforts on behalf of AAPG and our profession. Especially in the area of K–12 education in the Earth sciences, Don has made a real difference in what the next generations of Americans will know about geology and mineral resources.

A native of Los Angeles, Don was already committed to a career in geology when his parents began receiving small royalty checks for their West Los Angeles home above the Cheviot Hills oil field. With a B.S. degree (1956) from Caltech and an M.S. degree (1959) from Northwestern, Don had held summer jobs with Mobil in Venezuela and Pure Oil in Texas, and he knew the oil patch when he joined Chevron in 1958. During his 37-year career with Chevron he would know it very well: three years of Alaskan geology; seven years as a geologist and geophysicist in California's San Joaquin basin; district superintendent for Wapet in West Australia; exploration manager for Amoseas Indonesia; exploration manager for Chevron Overseas' Asia-Pacific and Europe regions; general manager of Chevron USA's Western

Region Exploration; and finally, five years as chief geologist of Chevron Corporation, the last to hold that title.

Don and Sue Lewis were married in 1959 and have two sons. One lives in Bangkok and the other in Tokyo, perhaps as a result of the good times the family had while living in Australia and Indonesia and traveling throughout southeast Asia.

Don joined AAPG in 1958 and became active in the Visiting Petroleum Geologists Program in 1979, soon after his return from foreign assignments. As an exploration manager, he pushed the participation of Chevron geologists in AAPG, section and local society activities, and in technical publication and presentations. Concerned with the challenges of exploration in environmentally-sensitive areas, Don became a founding member of the Division of Environmental Geosciences in 1992 and was active in its Liaison Committee. In 1994, he joined AAPG's Corporate Liaison Committee as the Chevron representative. That same year he organized the Keynote Session for the 1995 Pacific Section meeting and accepted the challenging job of Technical Program coordinator for the Association's 1996 Annual Meeting in San Diego, with outstanding results.

With Don's retirement from Chevron at the end of 1995, his professional activities proliferated. For the Northern California Geological Society (NCGS), he has been a delegate to AAPG's House of Delegates from 1995 to the present and was NCGS president in 2000. In the House of Delegates, Don chaired the Nominations and Election Committee in 1998–1999 and its Future of Earth Scientists Committee in 2000–2002. He was the primary author of that committee's report, "The Future Need for Petroleum Geoscientists," that drew high praise when released last year. Don was elected as the Pacific Section's representative on the Advisory Council in 2000 but relinquished that post after one year because of his election as AAPG's vice president. He currently chairs the ad hoc Survey Committee, is a member of the Technology Training Centers Committee, and the Committee on Committees, has been a Trustee Associate since 1997, and last year rejoined the Visiting Geologist Program. Don has always brought great credibility, complete professionalism, and a calm and reasonable voice to the sometimes heated debates within the Association's councils and committees. Clearly, he has crammed a lifetime of service to AAPG into the past ten years.

Throughout these years, one of Don's steadfast interests has been the improvement of Earth science education at the K–12 level of America's schools. In 1992 he joined the American Geological Institute's (AGI) Advisory Committee established to develop a new Earth science curriculum and textbook for Grades 5–8 and has been active on that and three successor AGI curriculum committees to the present time. The only industry member on these committees, he ensured the inclusion of energy resources in those curricula.

While on AAPG's Corporate Liaison Committee, Don was instrumental in initiating the Earth Science Teacher of the Year program in 1995–1996. In 1998, after restarting the Teacher of the Year program, he joined the Youth Education and Activities Committee and became chair of its Teacher of the Year subcommittee. The Teacher of the Year program solicits nominations from each affiliated local society for sponsored attendance and an award at the annual Section convention, and one of the Section winners is chosen to be honored at AAPG's next national meeting. Presentation of the national K–12 Earth Science Teacher of the Year Award at the all-convention luncheon, and the recipient's response, has been a very moving experience for all of us who value Earth science, our nation's young people, and the teachers who inspire them. Don Lewis has worked with skill and dedication at both ends of the process: to improve K–12 curriculum and textbooks in Earth sciences; and to bring recognition and our profession's acclaim to the Earth science teachers in America's classrooms.

Citation—To Donald W. Lewis, for his diligent service to the Association and our profession as committee member, councilor, officer, and in advancing AAPG's Teacher of the Year Award.

Thomas L. Wright

STEVEN L. VEAL

Distinguished Service Award

A native of Denver, Colorado, Steven L. Veal grew up an oilman's son. Following in his father's footsteps, he became a geologist, earning two Associate degrees (in science and general studies) before receiving his B.S. degree in geology in 1986 from Metropolitan State College in Denver. His continued academic studies were cut short by the untimely death of his father, whereupon Steve took over management of DCX Resources Ltd., the oil company founded by Harry K. Veal. Since 1988 Steve has served as president, exploration and business manager, and geologist, managing all business and technical activities of DCX, including operations, land, legal, geological, geophysical, geochemical, and remote sensing.

He was involved in the development of the Moore-Johnson field in Colorado and the Southwest Stockholm field in Colorado and Kansas. Steve cut costs, increased profitability, added consulting activities to company

operations, and in 1994 moved company activities to include international projects. To maintain prospect expertise and quality, he created "partner exploration teams" from within the working interest partners in order to maximize expertise involved in drilling and development. Drawing upon his own international expertise, since 1998 Steve and his firm have consulted on exploration concepts and operations in the United States and Europe for a variety of international firms.

Steve has authored or co-authored several papers on subjects ranging from the "Petroleum Potential of the Basin and Range Province," and the "Morrow Sandstones of Southwest Colorado and Adjacent Areas," to "De Re Metallica: Mining and Geology in the 16th Century," the "Potential of Structural Interpretation Using Space Shuttle Hand Held Photography," and "Hydrocarbon Production from Low Contrast, Low Resistivity, Pennsylvanian Age Reservoirs of the Las Animas Arch Region in Southeastern Colorado."

Steve joined AAPG as a student in 1986, and has demonstrated his commitment to the organization via his active participation in both the AAPG and its Division of Environmental Geosciences (DEG).

He served on the AAPG Astrogeology Committee from 1988 to 1999; he represented the Rocky Mountain Association of Geologists as a delegate to the House of Delegates from 1991 to 1994 and served as vice chair (House of Delegates) in 1993–1994. He was a member of the Conventions Committee from 1992 to 1995 and participated in convention coordination 1993–1994. He was elected AAPG treasurer in 1996 and served on the Executive Committee from 1996 to 1998. Steve worked on the AAPG Group Insurance Committee (1996–1998), the Mentoring Committee (1999–2000), and the Budget Review Committee (1997–2000). He served on the AAPG Advisory Council in 1999–2000 as DEG president. He is currently serving on the Conventions Committee for the 2001–2004 term, as the AAPG Europe Region consultant, as short course co-chair for the International Conference in Barcelona to be held in 2003, and as Organizing Committee chairman for the APPEX-London Program.

Steve has also been very active in the AAPG's Division of Environmental Geosciences. He served on the DEG Advisory Board representing the Rocky Mountain Section from 1992 to 1994. He was elected DEG vice president for 1994–1995. He served on the Annual Meeting Committee from 1994 to 2000. His service to DEG also included terms on the following committees: Computer Applications Committee 1995–1998; the Ad Hoc Marketing Committee as chairman 1995–1998; and the Ad Hoc Meetings Protocol Committee as chairman 1995–1996. Steve was an at-large member of the DEG Advisory Board for the 1997–1998 term. He received a DEG Special Recognition Award in 1995, a DEG Certificate of Merit in 1998, and in 2001 was named an Honorary Member of DEG. He was elected DEG president-elect 1998–1999 and served as DEG president 1999–2000. He served on the DEG Nominating Committee 2000–2003 (as chairman 2000–2001), and he worked on the DEG International Program 2001–2002.

In 1994, Steve did an excellent job of handling DEG's technical sessions, field trips, and short courses at the AAPG Annual Meeting in Denver. His enthusiasm, hard work, and innovative thinking resulted in a highly successful program.

As the AAPG treasurer from 1996 to 1998, Steve took it upon himself to fully understand the AAPG's budget process for the purpose of organizing the Finance Committee (currently the Budget Committee) to provide continuity of knowledge for succeeding treasurers.

If only one word could be used to describe his leadership style, that word would no doubt be "innovative." Steve's creative approach to all his endeavors has benefited the AAPG for many years and no doubt will continue to do so. He is a stellar representative of those members who have dedicated themselves to benefiting the membership and making the AAPG the worldwide success that it is today.

Citation—To Steven L. Veal, in recognition of his dedicated, innovative, and continuing service to the AAPG as delegate, member and chair of numerous committees, and officer, and through his leadership of the Division of Environmental Geology.

Edward D. Dolly

PAUL WEIMER

Distinguished Service Award

Paul Weimer has been a professor at the University of Colorado at Boulder since 1990. He holds the Bruce D. Benson Endowed Chair in Geological Sciences and serves as director of the Energy and Minerals Applied Research Center. He has worked with great enthusiasm with AAPG to advance the science of geology through committee work, publications, convention and conference organization, and teaching.

An AAPG member since 1978, Paul has an outstanding record of service. He was a member of the Distinguished Lecture Committee from 1991 to 1996, becoming its vice chair from 1998 to 2000 and chair from 2000 to 2002. He participated on other committees: Research (1991–1994), Geophysics (1991–1996), Membership (1991–1994), and Technical Program (1996–2002). Paul served as an associate editor for the *AAPG Bulletin* from 1997 to 2000. He was elected treasurer

of AAPG from 2002 to 2004, and is faculty sponsor for the AAPG student section at the University of Colorado. One of Paul's long-term goals has been to encourage the integration of geology and geophysics through intersociety work. While serving as the chair of the Distinguished Lecture Committee, he helped initiate two new intersociety lecture programs: SEG/AAPG in 1999 and the AAPG/SEG in 2002. The publication of AAPG Studies in Geology 42/SEG Investigations Series 5 in 1996 was the first joint publication with SEG in 24 years.

Paul has also done extensive work on technical sessions, research conferences, and committees with related societies and sections (Pacific Section AAPG, SEPM, Society of Exploration Geophysicists, Gulf Coast Section SEPM (GCSSEPM), Rocky Mountain Association of Geologists, Northern California Geological Society, and the National Research Council). He was president of GCSSEPM in 1997, and received their Distinguished Service Award in 2001.

Paul has contributed to the advancement of geology through research and publication. He has published more than 100 papers on a variety of topics: sequence stratigraphy, biostratigraphy, reservoir geology, petroleum systems, 3-D seismic interpretation, structural geology, and tectonics. Paul received the J. C. "Cam" Sproule Award in 1992 for his paper on the Mississippi Fan published in the 1990 *AAPG Bulletin*. In 1998, a special edition of the *AAPG Bulletin* was dedicated to the research done at the University of Colorado by Paul and colleagues on the geology of the northern deep Gulf of Mexico.

Paul has also co-edited eight books, two of which were published by AAPG: *Siliciclastic Sequence Stratigraphy: Recent Developments and Applications* (Memoir 58; 1993), and *Applications of 3-D Seismic Data to Exploration and Production* (Studies in Geology 42; 1996). Paul has co-edited four additional books with the GCSSEPM Foundation: *Submarine Fans and Turbidite Systems: Sequence Stratigraphy, Reservoir Architecture, and Production Characteristics, Gulf of Mexico and International* (1994); *Deep-Water Reservoirs of the World* (2000); *Petroleum Systems of Deep-Water Basins: Global and Gulf and Mexico Experience* (2001); and *Gulf of Mexico Deepwater Reservoirs Core Workshop* (2002). Other volumes he has co-edited include *Alaskan North Slope Geology*, SEPM Pacific Section (1987), and *Seismic Facies and Sedimentary Processes of Submarine Fans and Turbidite Systems* (Springer-Verlag) in 1991. Paul is writing a book for AAPG on the petroleum geology of deep-water deposits.

Paul works tirelessly to help organize conventions and research conferences. He was the Oral Sessions chairman for the 1999 AAPG International Convention in Birmingham, and poster chairman for the 1994 Annual Convention in Denver. For the Third AAPG/EAGE Research Conference in 1998 in Almeria, Spain, he was a co-convener. He was also a session co-organizer at the 1998 Hedberg Conference in Galveston.

Paul has frequently taught and lectured for AAPG, including 12 short courses and field seminars from 1994 to the present. He served as an AAPG Distinguished Lecturer in 1998–1999, and was the Esso Australia Distinguished Lecturer in 2001. He will teach the SEG Distinguished Instructor Short Course in 2004. At the University of Colorado he has taught courses in historical geology, sequence stratigraphy, petroleum geology, and petroleum geology of deepwater depositional systems. At the University of Colorado, he has supervised 5 Ph.D. students, 33 M.S. students, 1 B.A. honors student, and has sponsored and worked with 16 research scientists.

Paul received his B.A. degree with honors in geology from Pomona College in 1978, and his M.S. degree from the University of Colorado in 1980. He worked as an exploration geoscientist for Sohio Petroleum (later BP) in San Francisco, California from 1980 to 1984. He received his Ph.D. in 1989 from the University of Texas at Austin. He worked with Mobil Oil in Dallas, Texas from 1988 to 1990 as a research and exploration geoscientist.

Citation—To Paul Weimer, for dedicated service in advancing the science of AAPG through committees, publications, research conferences, conventions, and teaching.

John D. Edwards

STEPHEN C. RUPPEL

Wallace E. Pratt Memorial Award

ROGER J. BARNABY

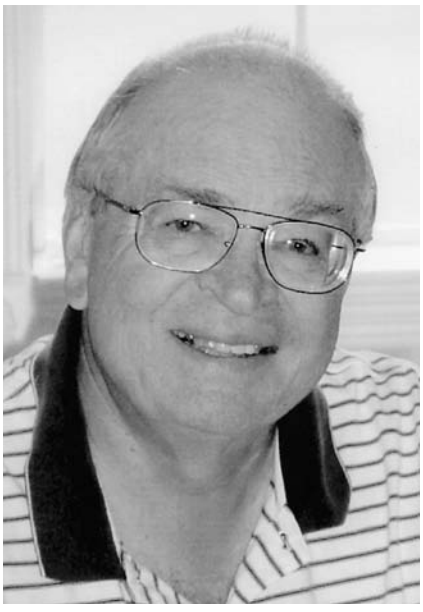
Wallace E. Pratt Memorial Award

The Wallace E. Pratt Memorial Award for the best paper published in the 2001 *AAPG Bulletin* goes to Stephen C. Ruppel and Roger J. Barnaby for "Contrasting

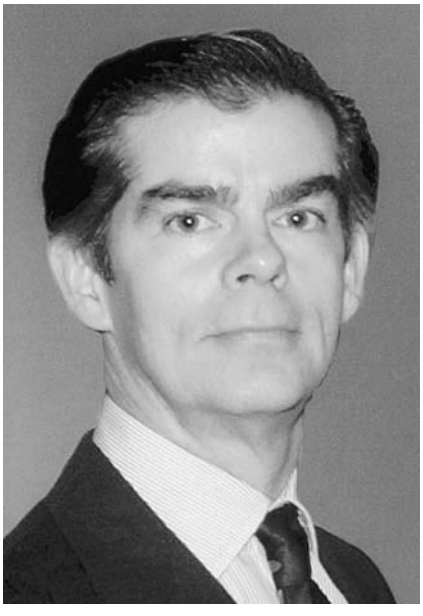
Styles of Reservoir Development in Proximal and Distal Chart Facies: Devonian Thirtyone Formation, Texas" (v. 85, no. 1, p. 7–33).

Steve Ruppel is a research scientist at the Bureau of Economic Geology at the University of Texas at Austin where he specializes in the characterization of Paleozoic carbonate reservoir successions. Prior to going to the Bureau in 1981, he worked at McGill University in Montreal and Chevron Oil Co. in New Orleans. He holds a Ph.D. from the University of Tennessee and B.S. and M.S. degrees from the University of Illinois and University of Florida, respectively. His current research is focused on identifying the stratigraphic and diagenetic controls of reservoir development in outcropping and subsurface Permian carbonates in the Permian basin.

Roger Barnaby is a research specialist at ExxonMobil Upstream Research Company. He previously worked at Saudi Aramco, the Bureau of Economic Geology, and British Petroleum. Roger has a B.S. degree from East Carolina University, and a Ph.D. from Virginia Polytechnic Institute. His research focus is carbonate reservoir characterization.



MARLAN W. DOWNEY
Robert H. Dott Sr., Memorial Award



WILLIAM A. MORGAN
Robert H. Dott Sr., Memorial Award

JACK C. THREET
Robert H. Dott Sr., Memorial Award

The Robert H. Dott Sr., Memorial Award for the best special publication in 2001 is presented to Marlan W. Downey, William A. Morgan, and Jack C. Threet for AAPG Memoir 74, *Petroleum Provinces of the Twenty-first Century*. The memoir is a compilation of 26 expert papers presented at the second Pratt Conference held January 12–15, 2000. The authors of these papers describe the remaining hydrocarbon potential of most of the major petroleum basins that will likely provide the world's energy needs in the near future, and address such timely questions as, Is the world running out of hydrocarbons? Where in the world will we find the resources necessary to fuel the 21st century? And, are there unconventional sources of hydrocarbons to be tapped?

Marlan Downey was educated in Nebraska, and has three earned degrees in chemistry and geology, and an honorary Ph.D. He joined Shell Oil in 1957, and retired 30 years later as vice president of Shell Oil and president of Pecten International. After retirement, he founded Roxanna Oil of Houston, Texas. In 1990, he joined Atlantic Richfield, and served as president of ARCO International until 1996. Immediately on retiring from ARCO, he became Bartell Professor of Geoscience at the University of

Oklahoma. In 2000, he was elected president of the AAPG. Marlan was chairman of the symposium on "Seals for Hydrocarbons," the Hedberg Conference on "Assessing Risk in Exploration," the symposium on "Unconventional Methods of Exploration," the Pratt Conference on "Future Petroleum Provinces," and the AAPG Washington conference on a national energy policy. He has published widely, but may be best known for his series of 24 articles on the "Business of Exploration," published in the *AAPG Explorer*. Marlan has been decorated by the government of Cameroon, was part of President Carter's team supervising the first free elections in Guyana, and was recently honored by the world's largest geological society as "a living legend in the oil and gas business." He recently received the Hedberg Medal for distinguished contributions in the field of international energy and education.

William A. Morgan is a principal stratigrapher in the Integrated Geological Analysis Group of ConocoPhillips. He received B.S. and M.S. degrees in geology from the University of Wisconsin, Madison. Since then, he has been employed for 25 years by Conoco Inc. (now ConocoPhillips), holding a variety of positions in research, exploration, and development. His primary technical interests lie in the stratigraphy, sedimentology, and diagenesis of hydrocarbon reservoirs and, in particular, those in carbonate successions. He has applied those interests to integrating core, well-log, and seismic data, and developing sequence stratigraphic/reservoir frameworks in many areas of the world.

Morgan has published several papers, principally on the stratigraphy and depositional facies of reservoirs in carbonate successions. He is a member of several geological societies and has been especially active in AAPG and SEPM, having held committee chairmanships in both organizations. He was chairman of the AAPG Grants-in-Aid Committee and received Certificates of Merit for co-chairing the AAPG Summits on Committees. Morgan served as the SEPM Technical Program chairman for the 2002 AAPG/SEPM Annual Meeting. He is an associate editor of the *AAPG Bulletin* and is serving a two-year term as secretary-treasurer of SEPM.

Jack C. Threet is retired vice president of Shell Oil Company. Upon receiving his B.A. degree in geology from the University of Illinois in 1951, he joined Shell in Tulsa as junior stratigrapher. Except for two years of military service (1953–1955), he worked continuously for Shell for the next 36 years. His first management post was in Amarillo, Texas in 1959. From there, he rose rapidly through Shell's managerial ranks both in the United States and abroad. He headed Shell's exploration and production activities in Australia (1970–1972), Canada (1973–1974), New Orleans (1974), and Shell Oil's newly formed International Ventures out of Houston (1975–1978). In 1978 he was elected corporate vice president and head of Shell's Exploration Department, and remained there until retirement in 1987. During that last ten-year period, Shell was regularly singled out by exploration analysts and industry observers as one of the nation's premier exploration organizations, and, most notably, became — and remains today—an industry leader in deep-water Gulf of Mexico.

Threet has served on numerous committees and boards of professional and technical organizations including the AAPG Foundation, which he currently chairs, the American Geological Institute Foundation, American Petroleum Institute, National Ocean Industries Association, Offshore Technology Conference, and National Science Foundation/Deep Sea Drilling Project. In 1989 he co-founded Energy Exploration Management Company, and founded and still actively heads Threet Energy, Inc., a small independent oil and gas company with exploration and production interests in several onshore United States basins.

RICHARD G. HARRIS
George C. Matson Award

MARK COOPER
George C. Matson Award

The George C. Matson Memorial Award for the best paper presented during an AAPG oral technical session at the 2002 AAPG Annual Meeting in Houston, Texas, is presented to Richard G. Harris and Mark Cooper for "Structural Analysis of Eastern Yemen Using Remote Sensing Data."

The authors report that this paper arose out of a scoping evaluation by PanCanadian as part of their entry strategy into the Republic of Yemen.

They looked at six blocks in the Masilah region and used a combination of remote sensing data and seismic to quickly narrow their focus to a single block. The study was also used to delineate leads and to plan a 2-D program (summer 2002) within the block. The paper was a modified version of an internal presentation given at PanCanadian by the authors at the end of 2001.

Richard Harris earned a B.Sc. degree in both geological engineering and chemical engineering from Queen's University in 1990 and 1997, respectively, and an M.Sc. degree in geology from the University of British Columbia in 2000. After two years working as a chemical engineer with Cominco Ltd., Richard decided to pursue a career in geology and joined PanCanadian Petroleum in 2000. He has previously worked East Coast Canada and the North Sea for PanCanadian, and is currently working as a geologist for the Middle East Group of EnCana Corporation in Calgary, Canada.

Mark Cooper has a B.Sc. degree in geology from Imperial College, London, and a Ph.D. from Bristol University. He taught at University College Cork for five years where his main research topic was the structure of the Irish Variscan orogen. He joined the BP Structural Geology Group in London in 1985 and worked on structurally complex basins worldwide. This was followed by four years with BP in Calgary working on the British Columbia foothills, and two years with BP in Bogota, Colombia, where he worked on the exploration of the Llanos Foothills. He joined PanCanadian Petroleum in 1994 and worked on the British Columbia foothills, western Newfoundland, Quebec, and the Gulf of Mexico. He now manages International New Ventures Exploration for EnCana Corporation in Calgary. He has published more than 40 papers, co-edited a book on inversion tectonics, has served as an AAPG Distinguished Lecturer, and is active in the Geological Society, the AAPG, and the Canadian Society of Petroleum Geologists.

VITOR DOS SANTOS ABREU
Jules Braunstein Memorial Award

KENDALL MEYERS
Jules Braunstein Memorial Award

THOMAS DAVID DE BROCK
Jules Braunstein Memorial Award

DAG NUMMEDAL
Jules Braunstein Memorial Award

WILLIAM A. SPEARS
Jules Braunstein Memorial Award

LOUIS E. WILLHOIT JR.
Jules Braunstein Memorial Award

STEVEN L. PIERCE
PHILIP A. TEAS
Not Pictured
Jules Braunstein Memorial Award

The Jules Braunstein Memorial Award for the best AAPG poster presentation at the 2002 AAPG Annual Convention in Houston, Texas, is presented to Vitor Dos Santos Abreu, Thomas David De Brock, Kendall Meyers, Dag Nummedal, Steven L. Pierce, William A. Spears, Philip A. Teas, and Louis E. Willhoit for "Reservoir Characterization of the South Timbalier 26 Field—The Importance of Shelf Margin Deltas as Reservoirs in the Gulf of Mexico."

The ST-26 project was developed at Unocal's technology group in 1999 due to problems in reservoir performance. The existing model did not adequately predict pressure response and well productivity. The South Timbalier Block 26 field lies on the southeast flank of the Bay Marchand salt dome, one of the largest salt domes in the Gulf of Mexico. Shell, beginning in 1965, developed the reservoirs. The principal reservoir in the field is the upper Miocene "O" sand, a complex unit of deltaic origin that includes up to 200 feet of net sand. Unocal had acquired part of the field from Energy Partners Limited (EPL), a Louisiana-based company, and the project was worked in close contact with EPL's geoscientists.

The key to successful reservoir development planning is an understanding of reservoir compartmentalization and the distribution of physical properties. Such understanding is based on a combination of stratigraphic, structural, and seismic analysis. The project integrated geophysical, petrophysical, and geological data to delineate the geometry and properties of the reservoirs in the South Timbalier Block 26 field, using advanced computational tools and current conceptual geologic models. Results of the project enhanced the understanding of reservoir compartmentalization and production behavior, improving reservoir performance.

Vitor Abreu received his B.S. and M.S. degrees at the Federal University of Rio Grande do Sul State, Brazil, and his Ph.D. degree at Rice University, Houston, Texas. His Ph.D. work included a seismic sequence stratigraphic study in offshore southern Brazil and in the conjugate northern Namibian margin in West Africa. He worked for Petrobras from 1987 to 1997, and for Unocal Corporation from 1998 to 2000. Since October 2000 Vitor has been working for ExxonMobil Upstream Research Company (formerly Exxon Production Research). He is currently working on reservoir characterization of deep-water slope channel systems in West Africa, as well as developing research projects in deep-water outcrops in the United States and Europe. Vitor is also adjunct professor at Rice University.

Thomas De Brock is a senior geologist for Energy Partners, Ltd. in New Orleans. Thomas started his career in seismic processing with GTS Corporation in 1985. In 1987, he joined Odeco Oil & Gas working the Gulf of Mexico Shelf followed by a move in 1989 to Louisiana Land & Exploration Co. (LL&E) to work the South Louisiana onshore area. After a merger of LL&E by Burlington Resources, he worked for W&T Offshore for a brief time before joining Energy Partners, Ltd. at its infancy. In his career, Thomas has been a member of various synergistic teams responsible for working both onshore and offshore exploration and exploitation projects. He is presently an active member of AAPG, the Houston Geological Society, and the New Orleans Geological Society.

Kendall Meyers is a Louisiana native born and raised in Plaquemines Parish. He graduated cum laude in 1986 with a B.S. degree in petroleum engineering from Louisiana State University. He is an accomplished petroleum engineer with 16 years of experience working mostly mature assets along the Gulf Coast, including major as well as independent oil company approaches to asset management. Ken's professional experience includes three years with Shell Offshore, nine years with Louisiana Land and Exploration, most recently, participating in the successful start up of Energy Partners Ltd. working with the principal partners to create a publicly offered, independent oil company headquartered in New Orleans, Louisiana.

Dag Nummedal is currently director of the Institute for Energy Research at the University of Wyoming and professor in the Department of Geology and Geophysics. He served as manager of geology at the Exploration and Production Technology Division at the Unocal Corporation, Sugar Land, Texas, from 1996 to 2000, and was professor in the Department of

Geology and Geophysics at Louisiana State University in Baton Rouge from 1978 to 1996. His Ph.D. is from the University of Illinois, and his M.S. and B.S. degrees are from the University of Oslo, Norway.

Nummedal's research and teaching career has covered the fields of stratigraphy, sedimentology, and petroleum geology. Currently active research is focused on CO_2 enhanced oil recovery linked to carbon sequestration, geological characterization of Rocky Mountain reservoirs, and sedimentation and sequence stratigraphy of the Pliocene paleo-Volga delta in the Caspian basin, Azerbaijan. Over the past few years, the management of applied R&D organizations has become the major focus of his interest and attention.

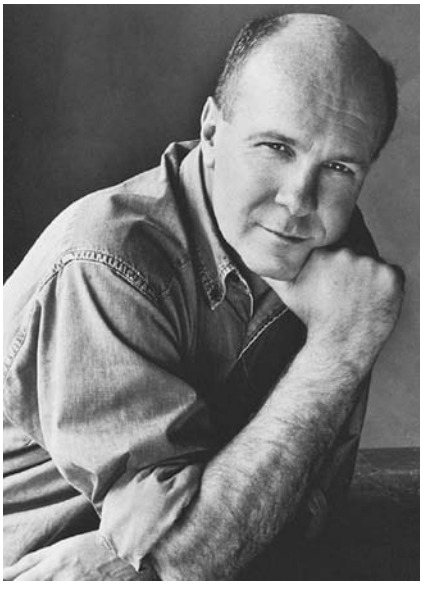
Nummedal has published more than 100 papers and numerous technical reports and taught short courses and seminars in sequence stratigraphy and related subjects at industrial companies, societies, and universities worldwide. He was the 2001–2002 SEPM president and AAPG Distinguished Lecturer for western Europe in the spring of 2002.

Steven Pierce graduated magna cum laude in 1975 with a B.S. degree in geology from Western Michigan University. He began his career working as a geologist for Texaco in New Orleans from 1975 to 1978, responsible for several onshore Louisiana properties. Between 1978 and 1994, he worked for Conoco in their Casper, Denver, and Lafayette offices. His project areas included most of the Rocky Mountain basins, the Utah/Wyoming overthrust belt, and the Gulf of Mexico Shelf. Steven was associated with Subsurface Consultants in Lafayette from 1995 to 1996, during which time he worked as a geophysicist handling projects in southern Louisiana. Between 1997 and 2002, Steven was a geophysicist in Unocal's Lafayette and Sugar Land offices responsible for southern Louisiana and the East Texas basin. Since the beginning of 2003, he has been working the Gulf of Mexico shelf in Stone Energy's Lafayette office.

Bill Spears is a senior exploitation geologist for Nexen Petroleum in Dallas, Texas, working primarily the Gulf of Mexico Shelf. Bill started his career in 1977 in Unocal Corporation's Mineral Division in Casper, Wyoming, in uranium exploration. He transferred to Unocal's Oil and Gas Division in Lafayette, Louisiana, working numerous south Louisiana onshore fields. Bill received his degree in geology from New Mexico State University. He is currently an active member of AAPG and the Houston Geological Society.

Philip A. Teas was born in the Netherlands. He spent his childhood in various cities before ending up in Texas for his high school and college education, earning a B.S. degree in geology from the University of Texas at Austin in 1992. He earned his Ph.D. in 1998 from the University of California, Santa Cruz. During that time, Philip also worked on various projects studying the effects of faulting on fluid flow and compartmentalization. He began work for Unocal immediately after receiving his degree and moved to Houston at the end of 1998. He worked with Vitor Dos Santos Abreu in the technology group on the ST-26 project providing structural geologic interpretations and trying to understand the fault-bounded compartments. Philip has also worked on projects around the world including Brazil, other parts of South America, and southeast Asia. He currently works in Indonesia in deep-water exploration and regional structural geology.

Louis E. Willhoit, Jr., has been vice president, Geophysics, since July 1998. Willhoit also holds the position of president and CEO for his (patented D3D ["Diagnostic Three-Dimensional" Seismic Process] patent no. 5,671,136 issued September 1997) technology company, VTV, Incorporated, headquartered in Denver, Colorado. Prior to helping found EPL, he provided geophysical consultation for Mobil's deep-water Lease Sale and Analog Field Study groups (1997–1998). He moved to New Orleans and was employed by LL&E as a senior, then staff geophysicist where he shot, processed, and interpreted 3-D (and D3D) seismic in southeastern Louisiana (1987–1996). Prior to that he was the Rocky Mountain Division geophysicist, senior explorationist (Paradox and Permian basins), and chief geophysicist for Forest Oil, Milestone Petroleum (now Burlington Resources), and BWAB, Inc., in Denver, Colorado, respectively (1977–1987). Willhoit also provided interpretive geophysical consulting for Amoco's North Slope/Prudeau Bay Exploration Group in Denver (1974–1977), and started his career as a geophysicist (Michigan Basin and International Ventures) with Shell Oil in Midland and Houston, Texas (1972–1974). He holds a B.S. degree in physics from Florida State University, and attended graduate schools in physics at the Universities of Iowa, Texas (Austin), and Colorado (Boulder).



SIMON WINCHESTER

Journalism Award

The Journalism Award is given in recognition of notable journalistic achievement in any medium that contributes to public understanding of geology, energy resources, or the technology of oil and gas exploration.

Simon Winchester, author, journalist, and broadcaster, has worked as a foreign correspondent for much of his career. He graduated from Oxford in 1966 with a degree in geology and spent a year working as a geologist in the Ruwenzori Mountains in western Uganda, and on oil rigs in the North Sea, before joining his first newspaper in 1967.

His journalistic work, mainly for *The Guardian* and *The Sunday Times*,

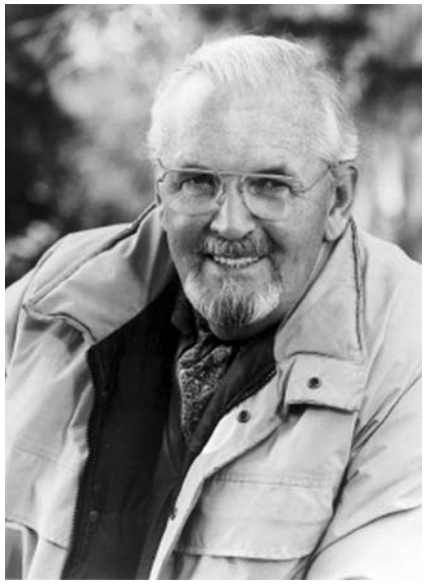
has based him in Belfast, Washington DC, New Delhi, New York, London, and Hong Kong, where he covered such stories as the Ulster crisis, the creation of Bangladesh, the fall of President Marcos, the Watergate affair, the Jonestown Massacre, the assassination of Egypt's President Sadat, the recent death and cremation of Pol Pot and, in 1982, the Falklands War. During this conflict he was arrested and spent three months in prison in Ushuaia, Tierra del Fuego, on spying charges. He has been a freelance writer since 1987, and when not traveling, spends his time in New York and Berkshire County, Massachusetts.

In addition to his books, Simon has contributed to a number of American and British magazines and journals, including *Harper's, The Smithsonian, The National Geographic Magazine, The Spectator, Granta, The New York Times, and Civilization*. Since its inception in 1987, he has been Asia-Pacific Editor of *Conde Nast Traveler*. His writing has won him several awards, including Britain's Journalist of the Year.

He writes and presents television films—including a series on the final colonial years of Hong Kong and on a variety of other historical topics—and is a frequent contributor to the BBC radio program, *From Our Own Correspondent*.

Simon Winchester also lectures widely—most recently before London's Royal Geographical Society (of which he is a Fellow)—and to audiences aboard the cruise liners *QE2* and *Seabourn Pride*.

His books cover a wide range of subjects, including a study of the remaining British Empire, the colonial architecture of India, aristocracy, the American Midwest, his experience of the months in an Argentine prison on spying charges, his description of a six-month walk through the Korean peninsula, the Pacific Ocean, the Balkans, and the future of China.



RON REDFERN
Journalism Award

The Journalism Award is given in recognition of notable journalistic achievement in any medium that contributes to public understanding of geology, energy resources, or the technology of oil and gas exploration.

Following World War II, Ron Redfern, a biochemist specializing in automated production technology for the food and pharmaceutical industries, was also a regular contributor to several technical journals that served these industries. After retirement from his professional activities in the mid-1970s, Redfern switched from technological to natural science writing and illustration for the general reader. His first book was his best-selling *Corridors of Time*, which was critically acclaimed by Wallace Stegner as being "perhaps the best ever on the Grand Canyon"—it won the AAPG Journalism Award for 1983.

Redfern later originated three BBC/PBS TV prime-time science series based on his books, one of which, *The Making of a Continent* series, received a much-coveted Peabody Award. By now, Redfern was acknowledged by his peers to be a world-class photographer as well as science writer, a skill that he began to develop when asked to illustrate his earlier technical papers for publication.

In his current book, *Origins… the Evolution of Continents, Oceans and Life*, Redfern presents a compelling and authoritative narrative history of the last 700 million years of Earth. He draws upon recent interdisciplinary discoveries in a wide field of applied sciences—tectonics, oceanography, climatology, evolution, paleogeography, and paleoanthropology, to name a few. His treatment of *Origins*, with its two-tier presentation of illustrated running text and discrete but interwoven photo-essays, builds on his previous experience of producing illustrated science books. It anticipates electronic development of the content and uses photography as its prime interpretive tool. The book was more than ten years in the making and is the result of dogged determination, despite serious illness, to complete a trilogy based on an "illicit love-affair" (as he puts it) with geoscience. In fact, *Origins* is the fulfillment of a personal learning curve that has become the foundation for development of electronic applications for education and research in the field of global change.

As a science writer, Redfern has received a number of prestigious literary and academic awards, perhaps most notably the American Institute of Professional Geologists' Outstanding Achievement Award in recognition of his 20-year contribution to the public understanding of science while living in America. And now a second AAPG Journalism Award after his permanent return to England—an honor that he cherishes as professional recognition of his work.

ROBERT F. MARTEN

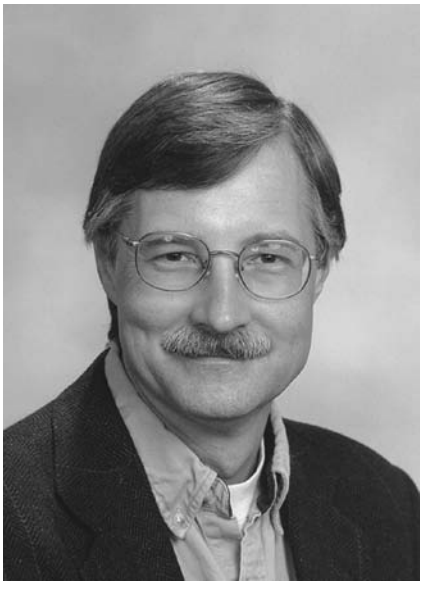
Gabriel Dengo Memorial Award

The Gabriel Dengo Memorial Award is given each year at the annual convention in recognition of the best AAPG paper presented at the previous year's international conference. This year the award was presented to Robert F. Marten.

Robert is an appraisal and development geophysicist with BP in Cairo, Egypt. He received his B.Sc. degree in geology in 1984 from the University of Nebraska, and his M.Sc. degree in geophysics in 1986 from Texas A&M University. He began his career with Standard Oil in Houston, Texas, in 1987 and has worked in the Gulf of Mexico, Norway, and Egypt. He is currently involved in reservoir appraisal and development of BP's Nile Delta gas fields, with an emphasis on seismic attribute analysis and interpretation, time-lapse seismic, and technology transfer.

The title of the paper is "The Future of 4-D in the Nile Delta," co-authored with James Keggin and Giles Watts of BP Egypt. While numerous 4-D success stories can be credited to oil reservoirs, little work has been done on applying the technology to gas reservoirs. Although time-lapse effects are expected to be generally smaller in gas reservoirs, recent modeling studies show the effects should still be visible. Strongest effects are expected to be seen in shallow gas reservoirs with good-quality 3-D seismic data sets. This includes most of the Pliocene in the Nile Delta, where 14 tcf of gas have been discovered, with current production from numerous fields. If 4-D technology could be applied here, it could provide a great cost benefit by enabling the cost-effective management of gas reservoirs through field life.

The paper presents recent rock property work on BP Egypt's Ha'py field, which suggests that time-lapse seismic may be an appropriate technology for reservoir management. The commercial benefits are explored and some predictions made about the level of repeat seismic activity that may be justified in future years.



PHILIP D. HEPPARD

Ziad Beydoun Memorial Award

The Ziad Beydoun Memorial Award is given each year at the annual convention in recognition of the best AAPG poster presented at the previous year's international conference. This year the award was presented to Philip D. Heppard for his poster presentation, "Using Shear Velocity and Vp/Vs to Predict Overpressure in Petroleum Basins." His co-authors were Dan Ebrom, Michael Mueller, and Leon Thomsen of BP America, Inc., and Toby Harrold of BP, Sunbury, United Kingdom. The poster presented the development and the first use of a technique to calculate the magnitude of overpressure from shear velocities and Vp/Vs—the ratio of compressional to shear velocity. A technique to derive Vp/Vs ahead of the bit from vertical VSPs was also shown.

Philip has been a petroleum geologist with Amoco and BP in Houston, Texas, since 1979. He began his career working as a development geologist in the Permian basin of west Texas. In 1984, he began another phase of work helping to develop the oil and gas fields of offshore Trinidad. Since 1988, Philip has been a pore-pressure specialist supporting BP's worldwide exploration and development efforts most recently in their Upstream Technology Group. His main interest has been pressure prediction and operational support in Trinidad, Venezuela, the Gulf of Mexico, onshore United States, the Far East, the North Sea, and offshore Egypt. He has made several presentations on overpressure at both national and international AAPG conventions, and was a contributor to AAPG's Memoir 70, *Abnormal Pressures* in *Hydrocarbon Environments.* Philip earned his B.S. degree in geology from Juniata College in Pennsylvania in 1977, and his M.S. degree in geology from the University of Akron, Ohio, in 1984.

AMY J. JOHN
Teacher of the Year

Amy J. John, an eighth grade earth sciences teacher whose classes integrate science and geology with the language, culture, and even mythology of her predominantly Navajo students, has been selected as AAPG's National Earth Science Teacher of the Year. John, who teaches at the TseBitAi Middle School in Shiprock, New Mexico, was born in Cleveland, Ohio. She is Turtle Mountain Chippewa and Navajo, grew up on the reservation where she now teaches, and knew long ago that she "wanted to come back… to give back to the children."

Amy said she had her first exposure to earth sciences while attending Navajo Community College, where she took a geology class and became drawn to the subject. She received her bachelor's degree in education from Fort Lewis College in Durango, Colorado, and her master's in education from New Mexico Tech. Her experiences in mining and reclamation at the BHP-Navajo and San Juan Mine while attending college have provided her with knowledge she currently uses in her classroom. She plans to pursue a doctorate degree and teach at the college level, specializing in earth sciences.

During the past year John's teaching has emphasized environmental issues in the earth sciences.

"The Navajo people believe that we should take care of Mother Earth, and Mother Earth will take care of us," John said in talking about her teaching approach, which uses the concepts of elements in Yakashbaah (above the surface) and Nikashbaah (below the surface, including oil and gas production). "They will understand how one thing affects another, developing cycles," she said.

"We did a lot of hands-on activities such as testing water, soil, air quality, and groundwater in the vicinity of Shiprock," she said. "Based on these field trips, some students became very interested in the environmental aspect and wanted to do experiments of their own… (they) went on to the Science Fair competitions based on their activities."

Recently, she was nominated for the Golden Apple Award for New Mexico, received the National Teacher of Excellence Award, and was recognized by President Bush for her work with students.