Building on a wave of new interest in U.S. geothermal development, the Geothermal Resources Council (GRC) 2005 Annual Meeting brought together the highest number of participants since 1997. Recent government policies, including western states Renewable Portfolio Standards, the promise of an extended federal Production Tax Credit, and new rules for geothermal leases in the Energy Policy Act of 2005 have attracted a spate of new players to the industry. The proof is seen in GRC membership, which is at its highest level since the early 1990s.

Under the theme, Geothermal Energy—The World’s Buried Treasure, this year’s Annual Meeting convened in conjunction with the Geothermal Energy Association (GEA – Washington, DC) Trade Show on Sept. 23-24. Reno, NV. Over 500 registrants—plus exhibitors, visitors and guests—brought this year’s Annual Meeting and Trade Show participation to nearly 1,000 individuals from over 20 countries.

With leadership by General Chairman Joel Renner (Idaho National Laboratory – Idaho Falls, ID), the hard work of the 2005 Annual Meeting Committee, GRC staff, and scores of volunteers brought together the essential elements of success for the event. These included generous financial support from GRC member companies and individuals; field trips to local geothermal fields and power plant operations; gracious appearances by our Opening Session speakers; a high-quality Technical Program; and a sold-out GRC Geothermal Energy Trade Show.

No less important were two GRC pre-Annual Meeting workshops convened on Sept. 23-24. Geothermal Drilling Regulatory Considerations, co-sponsored by Sandia National Laboratories (Albuquerque, NM) and led by Dr. R. Gordon Bloomquist (Washington State University Energy Program – Olympia, WA) and Alan Sattler (Sandia), taught participants about environmental issues and permitting requirements for power projects. Geothermal Reservoir and Surface Tracers, co-sponsored by the Idaho National Laboratory (INL) and led by Mike Shook (INL) and Paul Hirtz (ThermoChem, Inc. – Santa Rosa, CA), brought together experts who demonstrated the value of well-designed tracer tests for resource management. Gordon, Alan, Mike and Paul deserve special thanks for the excellent agendas they crafted for their interactive forums, which attracted more than 50 presenters and participants.

This year’s GRC Field Trips to northern Nevada’s Dixie Valley, Brady’s Hot Springs-Desert Peak, and Steamboat Hills geothermal fields were ably arranged by Walter (Dick) Benoit (Sustainable Solutions – Reno, NV). With assistance by Jim Faulds and Larry Garside (Great Basin Center for Geothermal Energy, University of Nevada, Reno – Reno, NV), David Blackwell (Southern Methodist University – Dallas, TX) and Stuart Johnson (ORMAT Nevada, Inc. – Sparks, NV), the field trips showcased Great Basin geothermal geology and power plant technologies. The GRC thanks these volunteers for their efforts, and ORMAT for its hospitality in providing lunches and refreshments for our field trip participants.

On Sept. 26, Invited Speaker Chairman Dan Schochet (ORMAT) introduced an impressive agenda of dignitaries to an audience of over 500 participants at the 2005 Annual Meeting Opening Session. Keynote Speakers included Reno, NV Mayor Robert Cashell; U.S. Department of the Interior Assistant Secretary for Lands and Minerals Management Rebecca Watson (pg 206); MidAmerican Energy Holdings Director of Legislative Affairs Jonathan Weisgall; U.S. Department of Energy (DOE) Geothermal Technologies Program Director Dr. Leland (Roy) Mink; Nevada State Senator Randolph Townsend; ORMAT Chairman Lucien Bronicki; Nevada Power Co. Manager of Renewables William Heck; and California Energy Commissioner John Geesman. The GRC thanks its Opening Session Keynote Speakers for their valuable insights and words of encouragement for geothermal development.

A poignant highlight of the Opening Session was presentation of the posthumous GRC Special Citation Award to GRC Founding Father and geothermal pioneer William (Bill) C. Berge by Past GRC President Stuart Johnson (pg 208). In her warm acceptance speech for the award, Bill’s daughter, Heidi Hodgson, reiterated his dedication to the development of geothermal resources, support of the GRC, and love for his many friends and colleagues in the industry.

The GRC 2005 Annual Meeting attracted more than 150 papers for oral and poster presentations that represented a broad spectrum of expertise in geothermal resource development around the world. Technical Program Chair Dr. Lisa Shevenell (Great Basin Center for Geothermal Energy) did an outstanding job of developing and executing this keystone event, with able assistance by Poster Session Chairman Kit Bloomfield (SAIC – Lakewood, CO). And for the first time, the GRC offered the proceedings of
the Technical Program (Transactions, Vol. 29) as a CD to all 3-day Annual Meeting registrants.

The GEA Geothermal Energy Trade Show is a vital complement to GRC Annual Meetings. This year’s event was no exception, attracting 45 exhibitors who offered participants and visitors a view of fascinating technologies and important services for developing, producing and managing geothermal energy resources (pg. 220).

GEA Executive Director Karl Gawell hosted Industry Spotlight Sessions during the Trade Show that provided a forum for discussions about the geothermal industry’s future. GEA Business Manager Daniela Stratulat catered to exhibitor needs, while GEA researchers Allysa Kagill and Nathaniel Hance enhanced the GRC Technical Program with papers about their work on environmental and economic issues important to the geothermal industry.

With thoughtful planning by GRC Board Member Jim Combs (Geo Hills Associates – Reno, NV), the GRC 2005 Annual Banquet featured an exciting and unusual venue. Nearly 200 participants attended the event on Sept. 26 at the National Auto Museum in Reno. Set among the facility’s vast collection of historical displays and vintage cars, the banquet featured McAvoy Layne—“The Ghost of Mark Twain”—who brought the house down with his humor and wit.

Geothermal Education Office (GEO – Tiburon, CA) Director Marilyn Nemzer organized and presented her annual ½-day Introduction to Geothermal Energy Workshop on Sept. 27. This Annual Meeting complementary event attracted students from the geothermal industry, local schools, and DOE GeoPowering the West State Working Groups. In addition, the GRC thanks Fuji Electric Systems Co. Ltd. (Kawasaki City, Japan) and ORMAT, for once again offering their popular hospitality suites to GRC Annual Meeting participants.

On Sept. 28, the Annual Membership Meeting and Awards Luncheon attracted 130 participants, who joined the GRC in honoring outstanding contributions to geothermal development (pg 211). This year’s worthy recipients included Dan Schochet for the GRC Joseph W. Aidlin Award, and John Featherstone (AMEC & EC Services – Phoenix, AZ) for the GRC Geothermal Pioneer Award. Special Achievement Award winners included Orhan Mertoglu (ORME Geothermal, Inc. – Ankara, Turkey); Joe Moore (Energy and Geoscience Institute, University of Utah – Salt Lake city, UT); John Sass (U.S. Geological Survey – Flagstaff, AZ); and Mike Shook (INL). The GRC also joined with GEA in presenting GEA-GRC Geothermal Excellence Awards to ORMAT Nevada, Inc. and the University of Nevada, Reno (pg 217).

The GRC Board of Directors, members, and staff extend their sincere appreciation to the organizing committee, contributors, and the many volunteers who offered their valuable time and efforts to make the GRC 2005 Annual Meeting such a memorable success. Much of that appreciation is deserved by Joel Renner and Lisa Shevenell, whose leadership helped focus our efforts. But most of all, we thank all of you who attended the event for your interest and dedication to development of geothermal energy—the “World’s Buried Treasure.”

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Tribute to a Founding Father

GRC Special Citation Award Honors Bill Berge for a Lifetime of Advancing the GRC and Geothermal Energy Development

At the Geothermal Resources Council (GRC) 2005 Annual Meeting Opening Session on Sept. 26, former President Stuart D. Johnson (2003-04) proudly presented the GRC Special Citation Award in memory of William (Bill) C. Berge.

“Bill Berge was a Founding Father of the Geothermal Resources Council (GRC), and he fostered the growth and success of the organization for many years. Bill served as GRC President in 1980-81.

“At the beginning of his career with Phillips Research & Development in Bartlesville, OK, Bill performed basic geothermal research. He then managed the Phillips Geothermal Exploration and Development Program in San Diego, CA; Salt Lake City, UT; and Reno, NV. Bill managed a geothermal operations and exploration program at The Geysers in California. He taught geology and performed geothermal research at Utah State University. Bill traveled the world on the religious mission work that was so important to his life, but always with an eye toward new geothermal projects. Some of you probably remember the first Geothermal Trade Mission to Mainland China, of which he was an eager participant.

“In short, Bill’s approach to success resulted in many accomplishments for the U.S. geothermal industry. But more important was Bill—the person and friend—who meant so much to so many GRC members.

“I met Bill while I was in graduate school, and one fall we led a geology field trip together. It was not unlike the GRC Annual Meeting field trips that many of us participated in during the past few days here in the Reno area. At the end of the trip, Bill pronounced that the field trip was successful—not so much because of the great geology and scenery we all enjoyed, but because of the people who participated. To Bill, the field trip was a success because of our interaction with students and because people were brought together to share ideas.

“I did not know it at the time, but that field trip was my interview for the geothermal industry. A few months later, Bill asked me to join his geothermal group at Phillips Petroleum in San Diego, California.

“It took me a while to figure it out, but Bill’s strength in solving problems was to simply bring the right people together to share ideas and concepts. This ethic led to success for geothermal development at Phillips. But he did not stop sharing ideas within our company. Bill talked to people outside...
Charles William (Bill) C. Berge, 72, of Newton, UT, passed away at his home on Feb. 9, 2005. Bill was a geologist, educator, and technology transfer specialist. His professional talents and pursuits allowed Bill to travel extensively, influence energy policy, and help build the U.S. geothermal industry.

“At the time, we thought it a little odd to give away ideas and technology that were bringing us success, but Bill was already helping to found the GRC. In essence, he was creating the reason that we are all here this week—to share our ideas and technologies, and to broaden the success of the geothermal industry.

“How can you cite Bill’s many achievements that brought people together to grow the geothermal industry? I will try in part by just listing some of the people who actively worked with him during those early years, including GRC Aidlin, Pioneer, and Special Achievement Award winners Bill Byrd, Dave Anderson, Bob Greider, Jim Koenig, Jim Combs, Harry Olson, Bob Forrest, Mike Wright, Giancarlo Facca, Franco Tonani, Dick Benoit, Dave Blackwell and John Lund. And we must not forget another distinguished recipient of the GRC Special Achievement Award who Bill worked with, Franco D’Amore.

“Another way to cite Bill’s achievements is to list the geothermal industry projects that he championed, including Roosevelt Hot Springs and Cove Fort in Utah; Steamboat Hills, Desert Peak and Soda Lake in Nevada; the Salton Sea and expansions at The Geysers in California; and Raft River in Idaho.

“Other important figures in the geothermal industry who worked with Bill at Phillips during those initial years, and are with us today, include Calpine geologist Joe Beal, consulting geologist Dick Benoit, and Steamboat industry partners Tony Bingham and Ron Barr. Many of my colleagues at ORMAT Nevada, Inc., including our landman, Bob Wright, also worked with Bill in the 1980s and 1990s.

“The point of mentioning all of these people is that Bill’s geothermal legacy is defined by his passion for the industry and by the many excellent people he worked with to make it happen. They were Bill’s friends, working together and with him to bring success to geothermal development in the United States. This community of friends and dedicated colleagues continues today through important gatherings such as this, the Geothermal Resources Council Annual Meeting.

“Bill often spoke of his family, and involved families in his operations—indeed, families were part of his day-to-day business. So it is fitting today to have several of Bill’s family members, who traveled from Utah to Reno, to be with us today and accept the GRC Special Citation Award in his honor. They include his wife, Ilda; his sons Eric and Hans; and his daughter, Heidi.”

Charles William (Bill) C. Berge, 72, of Newton, UT, passed away at his home on Feb. 9, 2005. Bill was a geologist, educator, and technology transfer specialist. His professional talents and pursuits allowed Bill to travel extensively, influence energy policy, and help build the U.S. geothermal industry.

Bill was born on Feb. 16, 1932 in Coalinga, CA. His interest in geothermal had many roots. While Bill’s formal start in geothermal was as a naturalist in Yellowstone National Park during summers while attending Brigham Young University (Provo, UT), his foundation in the energy industry can be traced to his father’s background in the drilling industry. From an early age, Bill learned about drill rigs as he grew up with the industry in California and Brazil.

After earning a B.S. and an M.S. in geology at Brigham Young University in 1958 and 1959, Bill served as a Lt. Commander (aviator) in the U.S. Navy. Upon graduation with a Ph.D. in geology from University of Wisconsin, Madison in 1971, he accepted a position with Phillips Petroleum Research and Development in Bartlesville, OK. In 1971, Bill convinced his superiors to form a group to evaluate geothermal resources as an emerging energy source. With that, his place in the U.S. geothermal industry was established for the next several decades.

Bill recognized that success in geothermal hinged on assembling a team that would cover the many professional disciplines required for development. Establishing an office in Del Mar, CA, he brought
together drillers, landmen, geologists, administrators and consultants to quickly establish a presence for Phillips in the rising geothermal industry of the western United States.

While The Geysers in northern California was an obvious target for the fledgling geothermal industry during those early years, Bill also established a presence for Phillips at the Salton Sea Geothermal Field in southern California, and started exploration of the Basin and Range from a field office in Reno, Nevada.

His Del Mar team implemented geothermal evaluations of all western states and an integrated exploration program during its first year. They also established the Roosevelt Hot Springs project, which in 1984 was the first successful geothermal flash power flash plant developed in the United States. From 1973 through 1976, Bill served as Phillips Geothermal Exploration Manager, and Phillips Manager of Geothermal Development until 1984.

Bill’s early collaboration with geothermal researchers at University of Utah Research Institute (UURI) carries on today with the continued success of the university’s Energy & Geoscience Institute (EGI). He was a “Founding Father” of the GRC, and served as its President from 1980 through 1981. In 1991, Bill worked as manager of OESI Exploration Development (Reno, NV), and from 1992 served as a geology professor at Utah State University (Logan, UT).

Bill was also dedicated to his faith. As a High Priest in the Church of Jesus Christ of Latter-Day Saints, Bill served in many capacities, including work at the Salvador Mission in Brazil. He also enjoyed a variety of sports and outdoor pursuits, including fishing, hunting, skiing, and photography. Bill is survived by his wife, Ilda, five children, and 11 grandchildren.

Bill Berge brought his love of family and his heritage to the many friendships that he developed in the geothermal industry, making many of us a part of his family over the years. As an industry, we will miss Bill for his vigor and his far-reaching achievements. As Bill’s colleagues, we will not forget his friendship and important contributions at so many important levels. (Stuart D. Johnson – ORMAT Nevada, Inc.)

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At the 2005 Annual Meeting in Reno, NV, the GRC Board of Directors and Honors & Awards Committee recognized the achievements of their distinguished colleagues in the international geothermal community. The GRC Special Citation Award, for significant contributions to the geothermal industry through the recipient’s life’s work, was presented to the family of Bill Berge during the Annual Meeting Opening Session on Sept. 26 (see article on pg. …). The GRC Aidlin, Pioneer, and Special Achievement Awards were presented to their worthy recipients during the Annual Membership Meeting & Awards Luncheon on Sept. 28.

The Joseph W. Aidlin Award recognizes outstanding contributions to the Geothermal Resources Council and to the development of geothermal energy.

**2005 RECIPIENT**

**Daniel Schochet**

GRC President Philip Messer (AMEC E&C Services – Phoenix, AZ) presented the GRC 2005 Joseph W. Aidlin Award to Daniel Schochet (ORMAT Nevada, Inc. – Sparks, NV), formally recognizing him for his outstanding contributions to the Geothermal Resources Council and to the development of geothermal energy. “On behalf of the GRC, I am pleased to announce that Dan Schochet, our fellow Board of Directors Member, Treasurer, Executive Committee representative, and member of the GRC for over 27 years, is the recipient of this year’s Aidlin Award,” said Mr. Messer.

“As an ORMAT Group of Companies (Sparks, NV) Vice President, he is recognized globally for his expertise in securing opportunities to harness geothermal power utilizing the company’s technologies. Since 1980, Dan’s geothermal work has included:

- Assessing power opportunities for geothermal resources, both in the domestic and international arenas;
- Applying ORMAT technologies to specific geothermal resources;
- Developing geothermal power plants for domestic and international developers;
- Evaluating and acquiring new project opportunities;
- Participating in full project development from feasibility, through the steps leading to commercial operation; and
- Developing power installations from 300 kilowatts to 130 megawatts (MW).

“For over two decades, Dan has been instrumental in ORMAT’s development of over 120 MW of geothermal resources in California and Nevada. During the same period, he provided signature-level management support in the development of over 700 MW of geothermal power in 20 countries worldwide. Ongoing ORMAT development will raise total power generated by the company to 1,000 MW before the end of the decade. Dan was instrumental in helping ORMAT achieve such a high level of success.

“Dan graduated from Cooper University with a BS in Electrical Engineering. He furthered his education with an MS in Electrical Engineering from Columbia University. From 1953 to 1975, Dan held a number of technical and management positions in the aerospace, electric power, and biomedical research industries. His work included aerospace engineering and research; reliability engineering; management of engineering testing and evaluation laboratories; and international management and marketing.

“During Dan’s geothermal years, he has dedicated major efforts to our industry. As a member of the GRC, he has served on the Board of Directors for 16 years, and as member of the Executive Committee has served as GRC Treasurer for the past 12 years. Dan has been an effective ambassador for geothermal energy, and has kept the light lit during the dark days of the geothermal industry. Dan claims a long list of volunteer activities for our community,
including service on the Geothermal Energy Association and International Geothermal Association Boards of Directors. He is a current member of the Western Governor’s Association Clean and Diversified Energy Advisory Committee and the Steering Committee of the Great Basin Center for Geothermal Energy.

“Through all of Dan’s contributions, support and work to further the geothermal industry, he has lived happily married to his wife and best friend, Christa, since 1974. Dan and Chris share the pride of becoming recent grandparents of Aiden Nathaniel Casey, born August 6, 2005 to their youngest daughter, Michele, and her husband, Sean.

“Dan, our friendship goes back along way. I know I speak for everyone in this room when I say thank you for your past and continued support to our industry. We now formally recognize you for your outstanding contributions to the GRC and to the development of geothermal resources. On behalf of the GRC,” Mr. Messer concluded, “I am pleased to present to you, Dan Schochet, the GRC 2005 Joseph W. Aidlin Award.”

In accepting the award, Mr. Schochet said, “I am very honored by this award. I want to thank the committee that selected me, and my company and colleagues. Without their support and encouragement, I could not have contributed as much as I have to the geothermal community. I especially want to thank my good friends Lucien and Dita Bronicki, CEO and Chairman of ORMAT, who have totally supported the GRC and my activities on behalf of the organization.

“I also want to thank some of my other colleagues at ORMAT, including Hezy Ram, Zvi Krieger and Stu Johnson. Their multi-disciplinary talents have helped me make a lot of difficult tasks look easy. I addition, I want to thank the Board of Directors and members of the GRC for the privilege of working with them. It is an outstanding organization, and my involvement has been very rewarding. I especially want to thank my good friend, Ted Clutter, who for the past nine years as Executive Director has labored tirelessly to make this organization one that we can be proud of. I thank you all, and I hope to spend another 25 years contributing to the GRC.”

The Geothermal Pioneer Award is given for outstanding achievements in the development of geothermal resources. It recognizes the pioneering efforts of members of the geothermal community who have made lasting contributions to the industry worldwide.

2005 RECIPIENT

John Featherstone

Will Osborn (PowerChem Technology – Minden, NV) presented the GRC 2005 Geothermal Pioneer Award to John Featherstone (AMEC E&C Services – Phoenix, AZ), recognizing him for his pioneering efforts in helping to develop geothermal power generation in southern California. “John Featherstone’s achievements were critical in the development of Imperial Valley and Salton Sea geothermal resources for power generation,” said Mr. Osborn.

“John earned a BS degree in chemistry from Belmont Abbey College in Belmont, NC in 1968, and continued on to a MS degree in chemistry from West Virginia University in Morgantown, WV in 1972. He began his working career in 1972 as a chemist and test engineer for the U.S. government in Wrightsville Beach, NC, where he helped develop scale control for distillation of seawater. This was the foundation for John’s work from 1973-1977 with the federal government as Geothermal Resources Program Manager in Calipatria, CA and Washington, DC.

“During the 1970s with utilities and industry, John solved two major impediments to commercial development of the heavily mineral laden Salton Sea geothermal resource—rapid corrosion of metal alloys and the high rates of silica scaling. He then joined Magma Power Co. in 1977, where he directed pilot studies that discovered a novel method of silica control for geothermal power plants in the Salton Sea region called the Crystallizer/Reactor Clarifier (CRC) process.

“In 1980, John accepted a position as Senior Production Engineer, then as Production Superintendent at Unocal, where he helped design, engineer, construct and startup the 10-megawatt (MW) Salton Sea Unit 1 power plant. The facility used the mineral control systems that John developed earlier, plus new innovations still in use today by geothermal power plants in the region.

“Unocal promoted John to Field Superintendent in the late-1980s, in charge of all geothermal operations. His work was instru-
mental in the development of new power plants and further innovations to handle the corrosive brines typical of geothermal resources at the Salton Sea. John has acquired over 50 patents in his name.

“In 1995, Unocal sent John to Indonesia for the start-up of the company’s 165-MW Awibenkok power plant at Gunung Salak. After completing that successful start-up, CalEnergy (which had purchased Unocal and Magma operations at the Salton Sea) hired John for the start-up and operation of 600-MW of generation from the Malitbog, Mahanagdong and Upper Mahiao geothermal power plants in the Philippines.

“In 1997, John returned to the Imperial Valley to remedy problems with the company’s research into extracting zinc from geothermal brine. He solved several difficult problems, proving the feasibility of metals extraction from the Salton Sea geothermal resource. As construction of the production-scale zinc plant commenced in 1999, John also accomplished extraction of manganese from geothermal brine.

“John enjoys reading, desert ecology, and riding BMW motorcycles. Active in the community, he has taught youth soccer for many years and served with the Desert Search and Rescue Unit for eight years. An accomplished musician, he has played the French horn in concert bands and orchestras.

“His tremendous range of knowledge comes to only a few in the geothermal industry, through hard work, creative thought, diligence and persistence. He is as resilient as they come, sticking with a problem until the solution arrives, long after the young and weak have given up. The CRC process, even after 25 years, is still integral to geothermal power operations at the Salton Sea, despite various attempts to implement alternative processes. Such are the accomplishments of a geothermal pioneer,” Mr. Osborn concluded. “John, congratulations on receiving the GRC 2005 Geothermal Pioneer Award.”

In accepting the award, Mr. Featherstone said, “It is a great honor for me to be selected for this award. Let me express my gratitude to the members of the GRC for giving me the award this year. I began working in geothermal in 1973, and the industry has given me great opportunities. But the most gratifying part of the whole has been the people who I have been associated with over the years. Any achievements that I have accomplished have been directly in proportion to the quality of these people. Again, I thank you for the recognition.”

Special Achievement Awards recognize outstanding achievements in all aspects of geothermal development and related fields of endeavor.

2005 RECIPIENT
Orhan Mertoglu

Dr. Jim Combs (Geo Hills Associates – Reno, NV) presented Orhan Mertoglu (ORME Geothermal Inc. – Antalya, Turkey) with a GRC 2005 Special Achievement Award, which recognizes outstanding achievements in all aspects of geothermal development and related fields of endeavor. International Geothermal Association President Dr. John Lund (Geo Heat Center – Klamath Falls, OR) accepted the award for Mr. Mertoglu.

The International Energy Agency. Nominated by MTA in 1983, he was presented with the Encouragement Award of the Turkish Scientific and Technical Research Association (TUB TAK). Orhan is President of the Turkish Geothermal Association, Vice President and a member of Board of Directors of the International Geothermal Association (IGA), Vice-President of the European Geothermal Energy Council, and has also served on the GRC Board of Directors.

“I first met Orhan in 1994 in Florence, Italy. At the time, I was the President of the IGA and Chairman of the Organizing Committee for the World Geothermal Congress (WGC) 1995 in Florence. He personally arranged and supported a group of more than a dozen political officials from Turkey to visit Tuscany, to convince them that Turkey should be the sponsoring country for the WGC 2005. Orhan was definitely victorious in his never-ending efforts, which led to yet another successful World Geothermal Congress this year.

“In recognition of your unique contributions to the geothermal community worldwide,” Dr. Combs concluded, “and particularly for your efforts that made the WGC 2005 possible in your home country of Turkey, I am proud to present you with a GRC 2005 Special Achievement Award.”
In accepting the award for Mr. Merto lu, IGA President Dr. John Lund said, “I know that Orhan will be pleased to receive this honor. As he continues his hard work, one of his goals is to have 30 percent of residences in Turkey heated by geothermal resources in the next decade. That will be quite an accomplishment for Orhan, who is a geothermal visionary. Orhan thanks you very much for this award.”

2005 RECIPIENT

Joseph Moore

Dr. Marcelo Lippmann (Lawrence Berkeley National Laboratory – Berkeley, CA) presented a GRC 2005 Special Achievement Award to Dr. Joseph Moore (Energy and Geoscience Institute, University of Utah – Salt Lake City, UT), recognizing his outstanding achievements in geothermal development. “It is a pleasure and an honor to present this award to my friend and colleague, Joe Moore,” said Dr. Lippmann.

“Joe is a native of New York, where he earned his undergraduate degree at City College. He earned his Ph.D. in geology at Penn State University, he performed contract metamorphic work near Salt Lake City, UT. He then started work searching for uranium in the desert, and was involved in the discovery of a deposit in northern Nevada.

“Joe spent the last 30 years of his career studying the geology of hydrothermal and geothermal systems all over the world, from North and Central America to Southeast Asia (Indonesia). According to Joe, his particular love is vapor-dominated systems. He was involved in siting the initial production well at Zunil in Guatemala, and geothermal wells at Cove Fort in Utah, while working at the Energy and Geoscience Institute at the University of Utah in Salt Lake City, UT. He takes pride in the fact that he is the only geologist on record who was ever sued for siting a geothermal well that produced steam.

“Joe has been a member of the GRC since the mid-1970s. He has been involved since that time as a member of the GRC Board of Directors for several years. Joe also served as Geothermics Assistant Editor for the Americas for 10 years. For the GRC Honors & Awards Committee,” Dr. Lippmann concluded. “I am very happy to give you this award for your unique contributions to the GRC, and for your work in developing a better understanding of the geological aspects of geothermal systems.”

In accepting the award, Dr. Moore said, “You have all become great friends, and I thank you for 30 years of fun, playing with this wonderful natural resource in your geothermal fields. I thank the industry and the U.S. Department of Energy for giving me the opportunity to work with you, and to the industry for letting me sample your samples, and hi-grade your cores, and go through your databases, while you never asked for anything in return. I appreciate the opportunity very much, and hope that I have given a little bit back to you. Thank you.”

2005 RECIPIENT

John Sass

U.S. Geological Survey (USGS – Menlo Park, CA) Geothermal Program Director Dr. Colin Williams presented a GRC 2005 Special Achievement Award to Dr. John Sass (USGS – Flagstaff, AZ), recognizing his outstanding achievements in geothermal development. “It is certainly an honor to present John with this award. He has earned it for a career of significant accomplishments in geophysics and geothermal research, in particular for his heat flow studies,” said Dr. Williams.

“John’s fundamental contributions to our understanding of heat flow go back quite a few years. He got the geophysics ‘bug’ in Canada back in the 1960s, working with one of the great pioneers of continental heat flow, Alan Beck at Western Ontario University. He moved on to Australian National University to get his Ph.D. with John Conrad Yeager.

“After returning to Canada for his post-doc work, John hooked up with Art Lachenbruch at the USGS. In light of their record, this was a very fortuitous pairing for productive and fundamental research in heat flow, primarily in the western United States. During his early career at the USGS, John produced the first comprehensive heat flow map of the western United States—one that delineated basic patterns that we still recognize today, even as new maps are produced and more details are filled in.

“John’s distinguished record of contributions includes techniques for measuring heat flow and the thermo-physical properties of rocks, and a very active record of acquiring data—literally hundreds of
measurements at many locations around the United States. He has been a strong advocate of scientific research drilling, especially in support of geothermal studies. He has played a critical role in such projects at the Valles Caldera (NM), the Salton Sea (CA) Scientific Drilling Program, the Cajon Pass (CA) Scientific Drilling Program, and the Long Valley (CA) Exploratory Well.

“He has been a consistent advocate of the importance of geothermal research and the value of geothermal energy. John’s advocacy of geothermal’s relevance inside the USGS saw us through some very difficult times when we really weren’t working in geothermal, and we owe him a debt for recovery of the program. He has been a mentor to a number of young scientists over the decades. And many of them, including me, aren’t so young anymore. We are all very grateful for his advice, and in many cases for the jobs he provided.

“John is somewhat unusual in the federal service because he not only gets things done, but he gets them done fast. And he gets them done right the first time. It is always a challenge to keep up with John at the rate he gets things done, and his readiness to move on to the next piece of work.

“It is appropriate that John’s wife, Maureen, is with us today. Anyone who knows John and Maureen knows that they are a team, both personally and professionally. John usually asks her for advice in making important professional decisions, and in dealing with important issues. Very few people at the USGS embody the agency’s concept of ‘Earth Science in the Public Service’ better than John.”

In accepting the award, Dr. Sass said, “Thanks very much, Colin, for the very moving tribute. I thank the GRC for this award, which I shall treasure. I thank my colleagues who proposed me for this award, and of course the committee for selecting me. I accept it on behalf of the USGS. I wouldn’t have much of the work with my name on it without their help. It was a wonderful, high-morale, high-productivity team, and we got a lot done, providing an important background for what is going in geothermal exploration today. Thank you.”

2005 RECIPIENT
Mike Shook

John Pritchett (Science Applications International Corp. – San Diego, CA) presented a GRC 2005 Special Achievement Award to Mike Shook (Idaho National Laboratory – Idaho Falls, ID), recognizing his outstanding achievements in geothermal development. “It is a great pleasure for me,” said Mr. Pritchett, “to present Mike with this award.

“Mike Shook got his formal education at the University of Texas, where he earned a degree in petroleum engineering back in the 1980s. His informal education started when he took a position at the Idaho National Laboratory (Idaho Falls, ID), where he has worked for about 15 years practicing the art and science of reservoir engineering, with a minor in numerical simulation.

“He has been involved with computation of reservoir models, and several special areas of particular interest to him. Mike came up with a very clever way of describing unsteady fracture matrix flow. In the context of big reservoir simulations, it is a very cheap and effective method. In fact, that is the very first piece of his work that I ever encountered, and I was very impressed with it.

“Lately, Mike has been very involved with inverse simulation methods, or what is more commonly known as automatic history matching. This will probably supplant the “guru approach” to numerical simulation, and make it more broadly available. During the last few years, Mike has also been involved with incorporating all kinds of ordinarily ignored information into the reservoir modeling process, such as microgravity and electrical survey data, and combining it with reservoir simulation to give us better models so we can explore and use our geothermal systems more efficiently.

“An almost continuing activity on Mike’s part is the study and use of tracers to help understand what is going on underground. To make their use and interpretation more quantitative, Mike has come up with “method of moment” approaches to actually obtain more useful information from tracer tests in the field. In fact, with Paul Hirtz (ThermoChem, Inc. – Santa Rosa, CA), he led a 2-day GRC workshop on Geothermal Reservoir and Surface Tracers in the days before this Annual Meeting.

“In addition to his technical accomplishments, Mike has been an unstinting volunteer for GRC Annual Meetings, year after year. He has served as Technical Program Chairman for this event in two of the last four years. And anyone who has done it knows just how much work that is. I hope he will continue to help,” Mr. Pritchett concluded, “because I’m the one in the barrel next year!”

In accepting the award, Mr. Shook said, “I am very honored to even be considered for this award, and I appreciate the recognition by the GRC Honors & Awards Committee. I would also like to acknowledge a few of my colleagues in the geothermal industry who had a great influence on my work; helped me learn the “tools of the trade;” and have been supportive of my activities. First is my friend and colleague, John Pritchett. Also, Joel Renner (INL), Sabodh Garg (SAIC), Jim Combs (Geo Hills Associates), and Ted Clutter (GRC). They have always taught by example, and their support is largely responsible for my activities in the GRC. I thank you gentlemen very much,” Mr. Shook concluded, “and all of you, for this award.”
ORMAT Technologies, Inc. and University of Nevada, Reno Win GEA-GRC Geothermal Excellence Awards

On Sept. 28, at the GRC 2005 Annual Meeting in Reno, NV, the Geothermal Energy Association (GEA - Washington, DC) and the Geothermal Resources Council (GRC – Davis, CA) presented GEA-GRC Geothermal Excellence awards to ORMAT Nevada, Inc. (Sparks, NV) and the University of Nevada, Reno. Presented by GEA Executive Director Karl Gawell, the awards honor forward-looking companies and communities for their outstanding efforts in promoting and developing geothermal energy.

Geothermal Industry Excellence Award
ORMAT Nevada, Inc., a leading U.S. geothermal equipment provider, developer and operator, will inaugurate operations at its new Richard Burdette power plant on Nov. 14, 2005. The facility, which will complement operations at ORMAT’s existing Steamboat Hills Geothermal Power Complex, incorporates all state-of-the-art developments in the company’s advanced binary cycle technology.

“Bringing the Richard Burdette power plant online signifies the resurgence of geothermal electricity development on a large scale,” said Gawell as he presented the award to ORMAT Executive Vice President for Business Development Hezy Ram. “It will be the first of many new geothermal power plants delivering clean, reliable electricity to the citizens of Nevada and other western states.” The Richard Burdette power plant (named in honor of the recently deceased Energy Advisor to Nevada Governor Kenny Guinn) is the first facility of its kind to be built under Nevada’s Renewable Portfolio Standards (RPS), which requires utilities to supply a portion of their power from renewable energy resources.

In addition to supplying clean, renewable energy, said Gawell, “The new geothermal power plant will enhance cooperation between ORMAT and the University of Nevada, Reno’s Redfield Campus by providing unique and meaningful geothermal research and student training opportunities.” According to ORMAT Vice President Dan Schochet, the new Richard Burdette power plant—along with other generation units at Steamboat—will provide enough electricity for the majority of residents in Reno, NV. For more information about ORMAT, visit the company website at: www.ormat.com.

Geothermal Community Excellence Award
The University of Nevada, Reno’s Renewable Energy Center (UNR-REC) at the school’s new Redfield Campus—located in south Reno adjacent to the ORMAT Steamboat Geothermal Complex—will facilitate geothermal research, outreach, and community involvement. “This new campus represents a huge breakthrough for geothermal energy use,” said Gawell as he presented...
the award to Dr. Alan Gates (representing the University of Nevada, Reno) and Dr. Lisa Shevenell (UNR Great Basin Center for Geothermal Energy). “The UNR Redfield facility will be the only college campus in the world completely powered by geothermal energy.”

“The UNR-REC will not only provide an educational and research forum for geothermal energy,” said Shevenell, “but will also be a showcase for public-private partnerships in geothermal utilization that we hope will stimulate increased development of geothermal resources in the United States.”

ORMAT Nevada, Inc., which operates geothermal power plants nearby at its Steamboat Geothermal Power Complex, has agreed to supply enough hot water and electricity to meet Redfield Campus heating and geothermal research needs. The company agreement has prompted several project plans, including geothermal heating and cooling for new buildings in the area, and expanded geothermal direct-use and other technology investigations at an onsite laboratory.

UNR-REC will promote awareness of renewable and geothermal energy at a multimedia center, where the public will have the opportunity to learn about and view turbines and other basic power plant parts. “And the UNR-REC will go beyond local promotion of geothermal energy,” said Gawell, “working internationally to provide training and information about geothermal energy.” In addition, the Redfield campus will provide geothermal workshops for professionals, researchers, and community members. For more information about UNR-REC online, visit: www.unr.edu/geothermal/UNRREC.htm.