
SEG
FOUNDATION
2019
ANNUAL
REPORT

OUR MISSION

"The SEG Foundation advances geophysics today and inspires geoscientists for tomorrow through funding innovative activities and grant programs that benefit geophysicists, their professional community, the Society of Exploration Geophysicists (SEG), and the general public."

OUR HISTORY

The SEG Foundation, a wholly owned subsidiary of SEG, is the fundraising arm of the parent organization. The Foundation was incorporated by the State of Oklahoma in 1987 as a 501(c)(3) not-for-profit organization, which means donations to the Foundation are tax deductible in the United States. Since inception, the Foundation has worked with thousands of individual, society/section, and corporate donors to provide tens of millions of philanthropic dollars to support geophysical programs that meet the needs of students and professionals and to support global growth.

MESSAGE FROM THE CHAIR

For nearly a century, exploration geophysicists have enabled global economic growth by finding and managing the oil and gas energy sources that power civilization. In parallel with this contribution, we have over the last few decades developed the knowledge and tools to provide solutions to additional societal challenges that have emerged, e.g., managing scarce freshwater resources and mapping areas prone to natural disasters. Since its founding in 1930, SEG has helped guide the profession with clear long-term strategies and will continue this leadership in a changing future.

The ongoing expansion of exploration geophysics from its roots in oil and gas to additional key arenas holds many implications for our profession. We must act now to attract passionate and talented new scientists to our changing field. We must provide our new professionals with the practical learning experiences and resources that will speed their contributions. We must advance the development of existing professionals, enriching their careers by helping them prepare for the exciting new opportunities of tomorrow. And we must support geophysicists' hands-on humanitarian efforts around the world, as they pursue projects that apply our unique science to improve quality of life for communities in need.

The Foundation aspires to help geophysicists adapt and respond to humanity's increasingly diverse and urgent needs. Carefully stewarded and strategically applied by the Foundation, philanthropic investment will be vital to our profession's dynamic future, yielding exceptional educational, scientific, economic, and humanitarian benefits as applied geophysics continues to evolve.

Thank you to the many corporations and hundreds of individuals who contribute their time, talent, and treasure to the Foundation each year. You enable the education and continued development of thousands of Members globally, as well as the application of geophysics in the service of humanity.

M. G. Loudin

Michael G. Loudin
2019 SEG Foundation chair

LEADERSHIP • BOARD OF DIRECTORS

The SEG Foundation Board of Directors has overall responsibility for all aspects of the Foundation's functions, including fundraising and oversight of investments. The 2019 16-member Board was comprised of dedicated industry leaders and volunteers who are passionate about geophysics and our professional community. Mid-term resignations were accepted for Glenn W. Bear (relocated by employer) and Maurice M. Nessim (voted as SEG president-elect).

Five leadership Board committees provide business guidance and ensure its financial well-being. These committees include the Executive Committee, Audit Committee, Development Committee, Finance/Investment Committee, and the Nominating Committee.

In addition, Board liaisons are assigned to specific Foundation-funded SEG program committees to ensure that donor intentions are being honored and to enable open pathways of communication between SEG programs and the Foundation. Directors are appointed by the president of SEG.

2019 OFFICERS


Michael G. Loudin, chair


Anna C. Shaughnessy
vice chair


Pete W. Cramer, treasurer


John Koehr, secretary

2019 DIRECTORS


David C. Bartel


Glenn W. Bear


Craig J. Beasley


Arthur Cheng


Maitri Erwin


Raymond C. Farrell


Michael C. Forrest

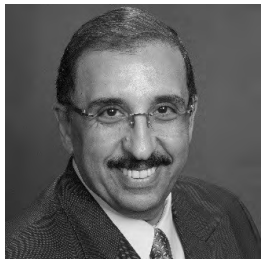

Gretchen M. Gillis


Julie K. Hardie


John A. Lambuth


Zhaobo "Joe" Meng


David J. Monk


Maurice M. Nessim

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2019 FOUNDATION FINANCIALS

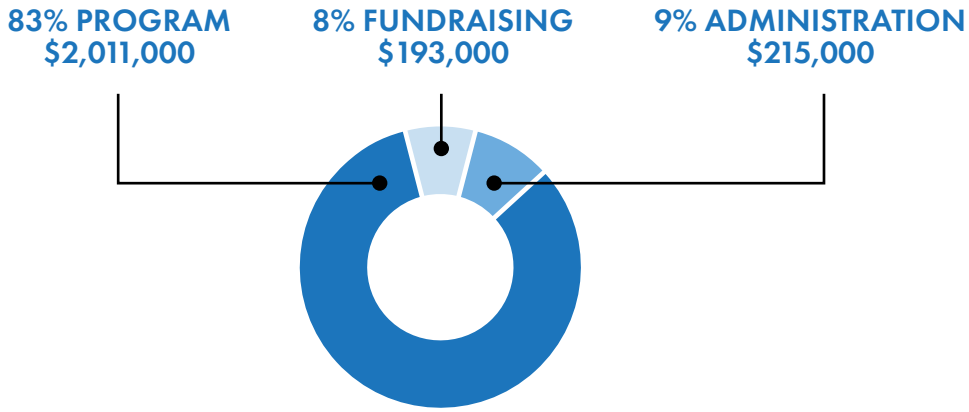
The following charts display the sources of revenue and program and support expenses for 2019 and 2018:

REVENUES	2019	2018
Contributions	$ 1,648,000	$ 1,702,000
In-kind support from SEG	16,000	46,000
Unrealized gain/loss	3,180,000	(1,552,000)
Loss on bad debt	(250,000)	(10,000)
	$ 4,594,000	$ 186,000

EXPENSES	2019	2018
SEG program support	$ 2,011,000	$ 2,319,000
Management and general	215,000	220,000
Fundraising	193,000	136,000
	$ 2,419,000	$ 2,675,000

NET ASSETS	2019	2018
Beginning of year	$ 20,021,000	$ 22,510,000
End of year	22,197,000	20,021,000
	$ 2,176,000	($ 2,489,000)

FINANCIAL PERFORMANCE



All monetary values are in U.S. dollars. Complete audited financial statements available at seg.org/foundation.

2019 FOUNDATION FINANCIAL SUMMARY

SEG program and Foundation support expenses are funded by contributions from corporate and individual donors, the Foundation's Development Reinvestment Fee, and the Annual Fund. The Foundation maintained basic management and general support services throughout the year. However, the Board of Directors continued discussions regarding the need for another major gifts campaign to benefit new and existing SEG programs, including the hiring of a consulting firm to conduct a philanthropic market (feasibility) study.

At the end of 2019, the Foundation's endowment was more than US$15.5 million, of which almost half supports scholarships, and the annual spending rate for endowed programs was set at 4%. Overall, the Foundation's net assets were slightly more than US$22 million at year end.

FOUNDATION-FUNDED SEG PROGRAMS

During 2019, Foundation donors supported 16 SEG programs, providing grants to SEG totaling more than US$2 million. These programs included: Professional Development (Distinguished Lecture, Honorary Lecture, Distinguished Instructor Short Course, SEG Wiki; US$296,990), Experiential Learning (EVOLVE, Field Camps; US$154,819), Social Impact (Geoscientists *Without* Borders®; US$495,000), Student Programs (Student Chapters, Scholarships, Student Leadership Symposium, Student Education Program, Travel Grants, Challenge Bowl, Near Surface Geophysical Research Award; US$1,049,022), and Others (Historical Preservation, SEG Online; US$14,681).

REVENUES: CONTRIBUTIONS

The Foundation received a generous renewed multiyear commitment and three renewed annual commitments, respectfully, from sustaining investors Chevron Corporation (Student Leadership Symposium), Schlumberger (Geoscientists *Without* Borders®), TGS-NOPEC (Field Camps) and Petroleum Geo-Services (Distinguished Lecture) in 2019. In addition to corporate giving, 12 Major Gift individuals contributed more than US$183,000 to support the Annual Fund and other designated SEG programs, while the AAPG Foundation also renewed their annual commitment to Geoscientists *Without* Borders®. Note that revenue reported by the Foundation includes new pledges and contributions made in the current year, and does not reflect additional cash received against pledges made in prior years.

EXPENSES: SUPPORTING SERVICES

The Foundation's expenses include SEG program support, management and general, and fundraising costs. Program support is reimbursements made to SEG for program grants/awards and program administration. Management and general are related to the general administration and operation of the Foundation. Fundraising is directly related to the development and stewardship of Foundation donors.

FUNDRAISING EFFICIENCY

A commonly used metric for monitoring fundraising efficiency is the "fundraising cost ratio." To calculate the cost per dollar raised, divide the fundraising expenses by total contributions. Calculating fundraising expenses and revenues using rolling averages over a period of three to five years reduces the impact on any one large gift, bequest, grant, or a low-revenue year on the fundraising cost ratio in any given year. The Foundation has chosen to use this three-year rolling average, and feels to be most prudent of donor intent, this ratio should be less than 20%.

FUNDRAISING COST RATIO FORMULA

$$\frac{\text{fundraising expenses}}{\text{contributions}} \times \$100 = \frac{\text{dollars spent}}{\text{per \$100 raised}}$$

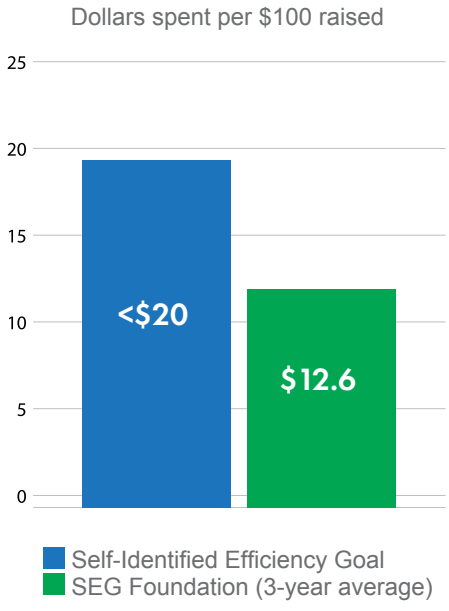


Photo (above and below): Myanmar GWB Project Team

MYANMAR EARTHQUAKE PROJECT

DR. PATRICIA PERSAUD

To conduct research halfway around the world is an incredible opportunity for a geoscientist. Just ask Patricia Persaud, a seismologist working on two of the world's major intracontinental strike-slip fault systems.

Originally from Guyana, South America, Patricia attended the University of Houston as an undergraduate and pursued her PhD at the California Institute of Technology. Now an assistant professor at Louisiana State University, she recently completed a major field study of the San Andreas fault system, which involved installing 744 compact cable-free seismometers in the greater Los Angeles area.

Patricia credits the Geoscientists *Without* Borders® program (GWB) for making projects like hers possible. GWB supports humanitarian applications of geoscience around the world and aims to unite geoscientists with multidisciplinary and community-based partners for the benefit of mankind.

"**This type of program is essential and not only inspires all types of positive change in local communities but also transforms the way we think about our research and what is relevant in today's world**," said Patricia. "These projects seek to be sustainable and have a lasting impact both in education and research."

The goal of the San Andreas project was to determine the shape and size of the sedimentary basins, which would help improve seismic hazard estimates in the region. A team of approximately 60 volunteers conducted four sets of installations over a three-year period beginning in 2017.

"We know that seismic waves can be amplified as they travel through sedimentary basins, and the effect of the basins in the Los Angeles area on ground motions is not well known," said Patricia. "That project inspired my research


Photo: Dr. Patricia Persaud

in Myanmar and laid the groundwork for what we are doing in Yangon, a rapidly growing city with a population of over seven million."

In November 2018, Patricia spent a month in Myanmar, a country with a population of more than 54 million, installing broadband seismic stations across the country as part of an NSF collaborative project. Based on her work in Southern California, Patricia quickly realized that, for the people of Myanmar, earthquakes were a way of life.

"Having a beginner's mindset in a new country and unfamiliar situation informed my research in a number of ways," she said. "During my time in Myanmar, nearby earthquakes were occurring regularly, not just magnitude twos and threes, but larger earthquakes that were being recorded by our instruments. That requires a certain level of preparedness and public education."

Her research has led Patricia to examine the hazardous structures underlying Myanmar's major cities, Yangon and Mandalay. "These cities are home to millions of people, and they are located close to the Sagaing fault, which is similar in scale to the San Andreas fault. At the same time, a subduction zone is located just west of this area that presents another poorly defined earthquake threat. It's important to help get a better idea of what the ground shaking would be in the event of a major earthquake," said Patricia.

The Myanmar project is ongoing and is scheduled to be completed at the end of this year. "We just installed 112 out of the 168 instruments we had planned to install in March 2020 (before the stay at home order) in Myanmar. The instruments are distributed around Yangon along three profiles and are hosted by Yangon residents and business owners," said Patricia.

As she looked back on the first phase of the project, Patricia reflected on its success thus far. "**I am inspired to see this type of work continue in Myanmar.** On 16 April 2020, there was a magnitude 5.9 earthquake in Myanmar that was felt all the way in the southern part of Bangladesh, a country with the highest population density in the world," said Patricia. "What we accomplish in Myanmar will help us gain a better understanding of the seismic hazard in this entire region."

For Patricia, this type of fieldwork exemplifies the importance of applied geophysics and the lasting

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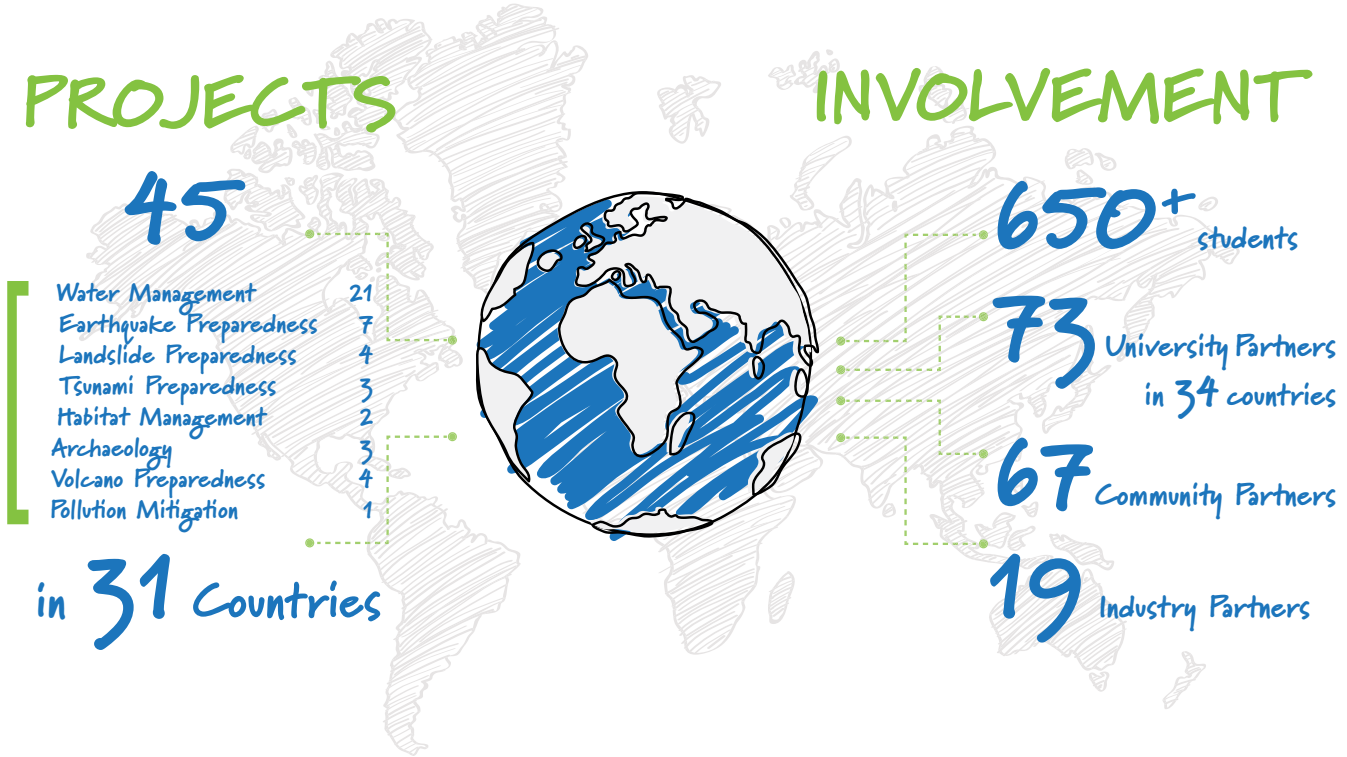
GWB BY THE NUMBERS



impact of partnering with local communities to solve problems. “Projects like these are a critical component in the survival of so many communities,” she said.

The work has also had incredible impact from an educational standpoint, reaching professors and student volunteers from 19 universities across Myanmar. “We are reaching a broad audience of physics and geology professors and students. The very first geophysics program has now been established at the University of Yangon, and students in geology, engineering geology, and petroleum engineering are working on our project,” said Patricia.

In addition to her teaching and fieldwork, Patricia serves on the Science Evaluation Panel of the International Ocean Discovery Program and is a member of the Incorporated Research Institutions for Seismology Working Group tasked with creating specifications and evaluation criteria for the procurement of new geophysical instruments for use by the research community.

“It is important that the state-of-the-art geoscience tools and techniques that are so commonplace nowadays are able to reach communities where they can be impactful and change the trajectory of those communities. **GWB makes it possible to have a meaningful societal impact anywhere in the world and wherever your science is relevant.**”

ABOUT GEOSCIENTISTS *WITHOUT* BORDERS®

GWB serves as a catalyst by bringing capable scientists together with communities to solve their problems. Many places around the globe facing severe water shortages, earthquakes, tsunamis, and other hazards are benefiting from the humanitarian efforts of geoscientists who are

Photo (above and below): Myanmar GWB Project Team

offering their specialized knowledge and technical skills to those in need.

GWB provides funding and assists geoscientists and their teams in collaborating with multidisciplinary and community based partners. Data are collected, processed, and interpreted to provide resources that result in a more accurate, efficient, and sustainable humanitarian benefit to the communities. Since 2008, GWB has awarded more than **US$3.5 million in grant funding** to 45 projects in 31 countries. For more information about GWB, please visit **seg.org/gwb**

2019 PROJECT LOCATIONS/GRANT RECIPIENTS

INDIA (South Asia)
Geophysical investigation to improve the landslide susceptibility analysis; Michigan Technological University

LITHUANIA (Europe)
Holocaust mass burial and submarine shtetl mapping Kaunas and Rumsiskes; The University of Hartford

MYANMAR (Southeast Asia)
Improving water security in Mon State, Myanmar via geophysical capacity building; University of British Columbia

NEPAL (South Asia)
Understanding high mountain aquifers to source drinking water in Sagarmatha National Park; Ball State University

SRI LANKA (South Asia)
Mitigation of groundwater hazard related to chronic kidney disease, Sri Lanka; Louisiana State University

VIETNAM (Southeast Asia)
Hydrogeophysics to explore groundwater for minorities; Hanoi University of Mining and Geology

CORPORATE AND INDIVIDUAL INVESTORS

Schlumberger
founding supporter

ConocoPhillips

AAPG FOUNDATION

Numerous individual donors

Endowment Funds: US$1,715,287
Debra and Mark Gregg/KiwiEnergy Ltd. (founding supporter)
Michael C. Forrest Honorary Endowed Fund

2019 STATS

APPLICATIONS

48 SUBMISSIONS

24 COUNTRIES

AWARDS/GRANTS

6 RECIPIENTS

6 COUNTRIES (LOCATIONS)

2 ONE-YEAR PROJECTS

4 TWO-YEAR PROJECTS

US$420,500 TOTAL AWARDS
Values from US$32,500–$98,000

GEOSCIENTISTS without BORDERS®

SOCIETY OF EXPLORATION GEOPHYSICISTS℠

Founding Supporter Schlumberger

JOHN T. ETGEN

SEG DISTINGUISHED LECTURER

Photo: John T. Etgen

Throughout his life, John Etgen has had the good fortune to work on a variety of topics in seismic imaging and data processing while learning from mentors and working with lead researchers along the way.

Earning a doctorate in geophysics from Stanford University, John's thesis focused on prestack migration-driven tomographic techniques for velocity estimation. He began his industrial career at the Amoco Production Research Company in Tulsa, Oklahoma. When Amoco merged with British Petroleum (BP), John moved to Houston, Texas, and served as BP's senior scientific advisor for seismic imaging. In 2008, he and Carl Regone were awarded the SEG Virgil Kauffman Gold Medal for their work in wide-azimuth marine seismic. John currently serves as assistant editor for the scientific journal GEOPHYSICS and continues to work in the upsteam technology organization at BP.

A self-proclaimed "fairly anxious" international traveler, John set course as the 2019 Q3/Q4 SEG distinguished lecturer. "Some might thrive on arriving in some distant land with little money, no understanding of the language or local customs, some simple directions on how to get to a hotel and to the venue, and otherwise just figure things out. But that's not really me," he said.

Yet, John's presentation, "Practical insights and techniques in seismic velocity estimation" took him around the globe to Canada, China, Denmark, France, Indonesia, Italy, Kuwait, Malaysia, Norway, Oman, Saudi Arabia, Singapore, United Arab Emirates, United Kingdom, and home again to the United States. In total, John completed 32 stops during his tour.

John began his tour by presenting at several companies and venues throughout Asia. He described his experience in the region. "**There is a young crop of geophysicists out there who are bright, eager, and already talented in the art**. I just have one datapoint, but I think these local populations of geophysicists are really happy when something interesting comes to town."

After meeting with hundreds of students and professionals around the globe, John reflects fondly of his time with them. "There were several researchers and data processors in the crowd, and they picked my brain for a good hour after the talk. **I was impressed with the level of their interaction**."

"I had good questions from a number of audience members. The social time with the group afterward was also worthwhile, as we discussed a wide range of topics from technical to career development," he said.

Local hosts made for a positive and fun travel experience for John. "I really appreciate all the help from the local contacts. It's clear they worked very hard to make sure everything went smoothly."

Although, he states the key ingredient to a successful tour is SEG itself, in particular the tour arranger. "When the tour is first being organized and you as the speaker are trying to figure out what you are going to lecture on and how much and what material to prepare and all that, you won't realize how much is going on to make sure everything runs smoothly. Only as you get to the end, realize that you flew enough to circle the globe a couple of times, visited many countries, gave the lecture to such a wide range of audiences, and it all went so well and everyone was so friendly and helpful, you realize that there's no way to make that happen by yourself."

Now a seasoned international traveler, John summarized his experience stating, “Thanks to [SEG staff] and the local hosts, everything really did work out fine. So, yes, nervous travelers can do the DL!”

ABOUT THE DISTINGUISHED LECTURE PROGRAM

The Distinguished Lecture (DL) program honors and recognizes outstanding individuals for their contributions and advancements to the fields of geophysics and geology. Each year, two lecturers are selected and tour internationally, presenting topics of global interest. In addition to recognizing an individual’s contributions to the science, the role of a Distinguished Lecturer is to promote geophysics, stimulate general scientific and professional interest, expand technical horizons, and provide a connection to SEG activities and practices. While these lectures are conducted in person, they are also recorded for online viewing.

For more information regarding the lecture programs, please visit **seg.org/education/lectures**. To view SEG lectures online, visit **seg.org/ondemand**. Please encourage your friends, colleagues, and students to explore this valuable resource.

2019 DL LECTURERS

FELIX J. HERRMANN: Q1/Q2

Professor at earth and atmospheric sciences, computational science and engineering, and electrical and computer engineering, Georgia Institute of Technology (United States)
Title: “Sometimes it pays to be cheap — Compressive time-lapse seismic data acquisition”
Schedule: 22 lectures, 704 attendees
Countries: Australia, Egypt, India, Indonesia, Israel, Malaysia, Netherlands, Oman, Singapore, United Arab Emirates, United Kingdom, United States

JOHN T. ETGEN: Q3/Q4

Senior advisor at BP (United States)
Title: “Practical insights and techniques in seismic velocity estimation”
Schedule: 32 lectures, 1559 attendees
Countries: Canada, China, Denmark, France, Indonesia, Italy, Kuwait, Malaysia, Norway, Oman, Saudi Arabia, Singapore, United Arab Emirates, United Kingdom, United States

CORPORATE AND INDIVIDUAL INVESTORS

equinor PGS

Shivaji N. Dasgupta

2019 STATS

GLOBAL REACH

54 LECTURES

20 COUNTRIES

17 UNIVERSITIES

2263 ATTENDEES

MARÍA ÁNGELA CAPELLO

SEG HONORARY LECTURER

One only needs to speak with SEG Middle East and Africa Honorary Lecturer María Ángela Capello for a few minutes to get a sense of her energy, passion, and dedication to the Society of Exploration Geophysicists and its Honorary Lecture (HL) program.

The HL program goes beyond the traditional classroom to enhance the learning experience for both students and professionals by inviting the industry's leading experts to share their research regarding the most innovative and relevant geophysical topics. For María, the program means even more. A respected leader in global outreach, inclusion, and diversity, Maria is particularly committed to reaching women in the geosciences and in building on those relationships.

"As an honorary lecturer, I consider myself an ambassador for SEG," said María. "While the educational aspect is enormously important, there is more to the role than the presentation. There are places in the world that benefit enormously from the personal connection and guidance. **Wherever I go, I'm there to make a difference**."

A native of Venezuela who has lived in Kuwait for the past several years, María has a unique perspective and, in her words, a very grounded profile. She enjoys experiencing different cultures and meeting people, and sees the Honorary Lecture program as a great opportunity to spread the word about geophysics. Her presentation, "The evolving challenges of geophysicists — From amplitude mappers to partners in drilling and water search," took her to Africa, Azerbaijan, Baku, Nigeria, Saudi Arabia, South Africa, and the United Arab Emirates.

"My travels throughout Africa and the Middle East were really rewarding for me. I cherish these opportunities because I meet so many interesting people," said María. "I always make a point of meeting with the students, especially the women, and listening to their concerns."

Many of the students María encountered wanted to know if geophysics would continue to be sustainable and if they would have work in the future, just as faculty voiced concerns about creating curricula for a new era of geoscience.

"In visiting with students and faculty, I feel I can ease some of those concerns. At the same time, I like to shake the ground a little bit and encourage people to think in new ways," María said. "**The geoscience industry is constantly evolving with new discoveries, fresh research, and infinite opportunities**."

Photo: María Ángela Capello

While in Baku, María was able to demonstrate just what an SEG ambassador can do in terms of grass roots outreach. The oil industry's first gusher occurred there in the late 1800s, producing 1000 barrels. María and a group of students visited the monument of that first well, and María shared its history, which included the Nobel brothers, who invented dynamite expressly for oil wells in the Caspian, beginning with Baku.

"I want to push an audience to think, to encourage ongoing communication, to create working partnerships, and to optimize what we're doing," said María. "SEG is in the perfect position to promote and advance those ideas to serve education, the community, and the world."

ABOUT THE HONORARY LECTURE PROGRAM

Each year, Honorary Lecturers transfer knowledge to six major regions of the globe with a mixture of in-person tours and virtual lectures. In addition, a Virtual Near Surface Global Lecturer delivers two presentations to be viewed around the world and recorded for online viewing. The regional focus of the lecture programs helps strengthen the services SEG provides to an expanding global membership. Lectures may be given in English or a language appropriate to the region.

For more information regarding the lecture programs, please visit **seg.org/education/lectures**. To view SEG lectures online, visit **seg.org/ondemand**.

CORPORATE AND INDIVIDUAL INVESTORS

Shivaji N. Dasgupta

2019 HL LECTURERS

GLADYS GONZALEZ: LATIN AMERICA
Executive geophysical advisor, V&G Exploration Inc. (United States)
Title: "De-risking exploration and development with realistic 3D geologic modeling, geophysical seismic simulation, and imaging"
Schedule: Two virtual lectures, 127 attendees
Countries: The virtual lectures were viewed globally

DIRK GAJEWSKI: EUROPE
Assistant professor, University of Hamburg Institute of Geophysics (Germany)
Title: "Wavefront attributes — A tool for processing, imaging and model building"
Schedule: 22 lectures, 562 attendees
Countries: Austria, Azerbaijan, Czech Republic, Denmark, France, Germany, Netherlands, Norway, Switzerland, United Kingdom

HESHAM EL-KALIOUBY: MIDDLE EAST AND AFRICA
Professor of geophysics, National Research Center (Egypt)
Title: "Induced polarization effect in time-domain electromagnetic prospecting, noise, or signal?"
Schedule: Two virtual lectures and three traveling lectures, 209 attendees
Country: Nigeria — The virtual lectures were viewed globally

HELOISE LYNN: NORTH AMERICA
Geophysical consultant and instructor with PetroSkills and Nautilus World (United States)
Title: "Azimuthal P-P seismic measurements: Past, present, and future"
Schedule: 19 lectures, 517 attendees
Countries: Canada, United States

BORIS GUREVICH: PACIFIC SOUTH
Head of the department of exploration geophysics, Curtin University, and advisor to CSIRO (Australia)
Title: "Seismic attenuation, dispersion, and anisotropy in porous rocks: Mechanisms and models"
Schedule: 29 lectures, 1080 attendees
Countries: Australia, China, Japan, Singapore, Taiwan

SUBHASHIS MALLICK: SOUTH AND EAST ASIA
SER professor of geophysics, University of Wyoming (United States)
Title: "Reservoir characterization for the next generation"
Schedule: Two virtual lectures and six traveling lectures, 417 attendees
Country: India — The virtual lectures were viewed globally

ROSEMARY KNIGHT: 2019 VIRTUAL NEAR SURFACE GLOBAL LECTURER
Rosemary Knight
Founder, Center for Groundwater Evaluation and Management, department of geophysics, Stanford University (United States)
Title: "Advancing the use of geophysical methods for sustainable groundwater management"
Schedule: Two virtual lectures, 157 attendees
Countries: The virtual lectures were viewed globally

2019 STATS

IN-PERSON LECTURES

79 LECTURES

19 COUNTRIES

VIRTUAL LECTURES

8 LECTURES
VIEWED GLOBALLY

3050+ TOTAL ATTENDEES

DR. MANIKA PRASAD

SEG DISC INSTRUCTOR

Photo: Manika Prasad

Manika Prasad is an educator in the most comprehensive sense of the word. Affectionately known as the "mud queen" among her peers and students, Manika is a pioneer in her field, using tools and techniques from both the geosciences and engineering to conduct her research and teach her students.

A professor of the Petroleum Engineering Department at the Colorado School of Mines and a contributing member of the Colorado School of Mines Center for Rock Abuse, Manika broke new ground in 2019 as the first woman to teach the SEG Distinguished Instructor Short Course (DISC). Her course, "Physics and mechanics of rocks: A practical approach," provided working knowledge in the areas of rock physics and rock mechanics for rock characterization.

Although the course had a strong focus on rock-physics fundamentals, key principles, and controls for rock properties, Manika also discussed advanced topics in rock physics, such as attenuation and dispersion, complex electrical properties, and the link of elastic properties to permeability.

An instructor with a love of knowledge and sharing knowledge, Manika's career spans beyond three continents and several professional disciplines in and related to the earth sciences. Starting with a bachelor's degree from the University of Bombay, Manika went on to obtain her master's degree and PhD at Christian-Albrechts Universität in Kiel, Germany, with studies in geology, chemistry, geophysics, marine geology, and sedimentology. Her academic career includes appointments at the University of Hawaii, Stanford University, and Colorado School of Mines, a path that has given her an appreciation for multidisciplinary applications, as well as a unique ability to guide multicultural teams.

It is, in fact, the diversity of her profession that most appeals to her and informs how she relates to her students. At home in Colorado, Manika recently discussed this aspect of her DISC experience and how a growing diversity signals a shift in the industry.

"**It was amazing to engage with so many students and professionals from across cultures and specialties**. The level of interest and preparation, enthusiasm for the subject, and variety of questions they asked were all impressive," said Manika. "It was also encouraging to see the participation of a growing number of women. There is an increasing level of gender diversity now in a number of locations, and that's very gratifying."

At two of those locations, Kuwait and Kuala Lumpur, her hosts took Manika outside the classroom to tour local research facilities, resulting in opportunities for further dialogue. Manika was struck by the depth and breadth of these discussions, as well as the level of interest in following up. She was even invited back to Kuala Lumpur next summer.

"**I felt incredibly welcome everywhere I went, and in many instances would like to have stayed longer**. SEG and the local hosts did a great job of facilitating each stop along the way, and the hospitality was extraordinary," said Manika.

While an educator's task is to teach, Manika also hopes to instill in her students an excitement about the subject she is teaching. Her primary goal is for students to learn and to love learning. In this way, whether through her teaching or research, Manika engages the next generation of industry professionals. An instructor who does it all with a gracious manner, warmth, and good humor, Manika defines what it means to be an outstanding educator.

ABOUT THE SEG DISC PROGRAM

The SEG Distinguished Instructor Short Course (DISC) offers an environment for participants to learn and interact with some of the most accomplished individuals in the industry. This popular eight-hour, one-day short course focuses on a topic of current and widespread interest. DISC instructors are nominated, prestigious, world-class individuals who tour globally. They are also recorded for online viewing. The DISC program continues to be a long-standing, high-level SEG resource. For more information regarding DISC, please visit **seg.org/disc**.

2019 DISC INSTRUCTOR

MANIKA PRASAD

Professor, Colorado School of Mines (United States)
Title: "Physics ad mechanics of rocks: A practical approach"
Schedule: 23 locations, over 350 attendees
Countries: Argentina, Australia, Bahrain, Brazil, Canada, China, India, Japan, Kuwait, Malaysia, Mexico, Singapore, United Kingdom, United States

CORPORATE AND INDIVIDUAL INVESTORS

Endowment Funds: US$405,333
Richard and Fran Baile and others

2019 STATS

GLOBAL REACH

23 LOCATIONS

14 COUNTRIES

8 UNIVERSITIES

350+ ATTENDEES

SEG WIKI:

HARNESSING THE POWER OF COLLABORATION

Photo: Jorge Luis Ñustes Andrade

Volunteers play a key role in contributing to the SEG Wiki. They come from different places around the world, and their reasons for contributing vary. But they all have something in common — a commitment to geophysics and collaboration.

For Jorge Luis Ñustes Andrade, a geoscientist from Colombia, volunteering as a Wiki contributor serves his passion. "I am a curious person and wanted to learn more about geophysics while contributing to it. I have learned so many things in my two years of volunteering, and the **SEG Wiki has influenced my life in more ways than I could ever imagine**," says Jorge.

SEG Wiki volunteer positions offer invaluable opportunities to those wishing to make a significant contribution to the SEG community, its members, and affiliated societies. Volunteers gain a working knowledge of the wiki as they grow within the Society, expand their knowledge and skills, and bring geophysics to a worldwide audience.

"There is a large body of technical material created by volunteers that is widely used by the scientific community. Contributors learn to write and edit wiki pages, which is a good skill to develop," says Karl L. Schleicher, senior research fellow at the University of Texas at Austin.

Wiki staff hold webinars to train volunteers and provide support on a regular basis. Through the Student Center on the wiki, students connect the learnings in the classroom and involvement with SEG Student Chapters to a wider audience. This level of engagement from the onset of their applied-geophysics journey with SEG helps encourage a lifetime of connection and contribution to the Society.

"I encourage all those who are interested in volunteering or who have been called to contribute to do so. The wiki staff provides complete training and help along the way. **I am very proud to participate with an organization as respected as SEG**," observes Brenda Monsalve, marine geoscientist and independent contractor.

SEG also works to ensure that volunteers receive a learning experience that fits individual career and learning goals. Lucia Torrado, PhD candidate at the University of Houston, describes her learning experience. "As a geologist, I get to learn more about geophysical terms that I normally wouldn't know about. As a translator, I get to practice my English. I learn about time management, self discipline, and leadership. **The SEG Wiki is an excellent resource, especially for young professionals like myself. I would encourage prospective volunteers to participate without hesitation**." She adds, "On one occasion, I saw a post on LinkedIn from a colleague talking about how great the wiki was and I thought to myself 'Awesome! That's a nice validation for all of the work that the volunteers have done.'"

The goal of the SEG Wiki is to expand the world's knowledge of applied geophysics, to provide further details of the science itself, and to engage emerging professionals in the field. The wiki is dedicated to applied geophysics and the people and technology that support it. It is publicly accessible and editable to all users registered with SEG. The wiki is maintained by the SEG Wiki Committee, volunteers, and readers from all over the world.

We encourage you to read, edit, and enhance the SEG Wiki. The success of the wiki is dependent on the contributions of our volunteers and donors.

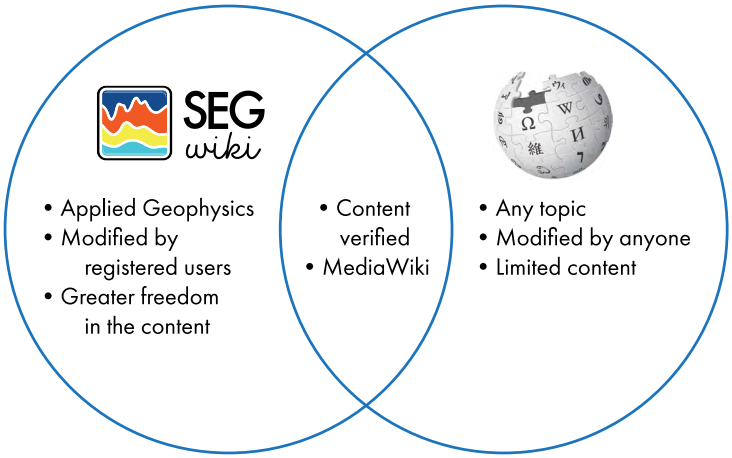
2019 ACCOMPLISHMENTS

- Robert Sheriff's *Encyclopedic Dictionary of Applied Geophysics* translation progress: 100% completed in Spanish, 55% translated to Mandarin
- *Problems in Exploration Seismology and their Solutions* by Lloyd P. Geldart and Robert E. Sherriff added
- Biographies of past SEG award winners and SEG presidents added
- Partnership formed with the Geophysical Society of Houston to add its geoscience museum online
- More than 1400 items have been added to the museum, each searchable and linked by multiple categories
- Dozens of new articles were contributed through continued class partnerships with the University of Oklahoma
- Updated committee charter to include the organization of contributions to social media (LinkedIn, Twitter, and other online outlets) and to provide avenues for SEG Members to recommend topics for the SEG podcast, Seismic Soundoff

ABOUT THE SEG WIKI PROGRAM

An encyclopedia of applied geophysics, the SEG Wiki is a publicly accessible and editable website, open to all users registered with SEG. The SEG Wiki's main mission is to supply scientific material to the geoscience community and the general public through online books, tutorials, geoscience articles, biographies of key geoscientists, and to engage emerging and established professionals. The wiki is maintained by volunteers, strategic university partnerships, the SEG Wiki Committee, and readers throughout the world. For more information regarding the SEG Wiki, please visit **wiki.seg.org**.

HOW ACCURATE IS THE INFORMATION CONTAINED IN THE SEG WIKI?



CORPORATE INVESTORS

Apache IHS Markit

2019 STATS

GLOBAL REACH

26,600 EDITS MADE TO THE WIKI IN 2019

143,905 TOTAL CHANGES TO THE WIKI AND COUNTING

SEG wiki

SEG EVOLVE:

CHARTING A COURSE FOR THE NEXT GENERATION

The SEG EVOLVE program helps prepare students for careers in geophysics through a highly effective combination of collaboration and experiential learning. Project management, teamwork skills, and business values are honed within the context of exploration, reservoir appraisal, field development planning, and production enhancement scenarios. EVOLVE also links experienced mentors to student teams, encouraging communication and feedback.

David Herman, a graduate research assistant at Oklahoma State University and first-time EVOLVE participant, summed up his experience, "SEG EVOLVE is a great opportunity for students interested in the energy sector. Unlike more competitive programs, **EVOLVE is a fully collaborative program where you work not only with industry mentors, but also with other students from around the world**. If you are interested in learning the entire process from prospect identification to economics to production, I highly recommend it."

EVOLVE is comprised of multidisciplinary student teams, including geologists, geophysicists, petrophysicists, and reservoir engineers. Each team is assigned one of three data sets, or assets, and receives the same data, software, and educational materials. The cloud-based DecisionSpace® platform allows students to see one another's work and helps facilitate effective integration and collaboration across disciplines.

Over the course of eight months, the student teams collaborate and conduct analyses using real-world seismic, wireline, core, production, and other data to find the best exploration or production investment opportunity within the team's asset and to make business recommendations on ways to create value from that asset.

According to Sean Pasek, a student at the University of Alberta, EVOLVE empowers participants to solve the types of realistic challenges that students will encounter on the job. "**The EVOLVE program was the single-most formative and educational experience of my undergraduate geophysics career**. I can't recommend it highly enough. If you want to better understand what upstream exploration looks like in the real world, you need to assemble a team and apply," said Sean.

Jonathan Orozco Rios, a team leader from Colombia, agreed. "Being part of SEG EVOLVE was an amazing experience. The program challenged us to excel and pushed us to put theory into practice. I would urge other students and young professionals interested in career development to take advantage of this program," said Jonathan.

In September, teams and mentors gathered at the SEG Annual Meeting in San Antonio for the culmination of the program: the team presentations. In a setting that simulated an oil company boardroom, the students shared their results and recommendations, while the panel and mentors provided additional guidance to help the students improve their understanding and communicate more effectively.

As friendships were formed and memories were made, student team members Deborah Wehner, Hannah Galbraith-Olive, and Megan Holdt expressed their appreciation for a unique and memorable experience.

"Our attendance at the Annual Meeting was a fantastic opportunity to receive feedback from industry professionals. The SEG EVOLVE program offered technical insight, the opportunity to work in a multidisciplinary team, and the chance to develop our

soft skills. Thank you very much to the EVOLVE sponsors and mentors for making this amazing program possible," said Deborah.

2019 ACCOMPLISHMENTS

- Expanded to 20 international teams (10 teams in 2018)
- Team members were invited to attend the SEG Annual Meeting to showcase their new skills during two half-day sessions
- Teams participated in poster sessions at the Annual Meeting
- Continued in-kind support, with several tutorials donated by the International Human Resources Development Corporation and an available Rose & Associates risk analysis course

ABOUT THE SEG EVOLVE PROGRAM

SEG EVOLVE offers students direct experience in conducting integrated subsurface analyses using real-world seismic, wireline, production, and other data. Each team of four to six students, with backgrounds in geology, geophysics, petrophysics, and reservoir engineering, work together to review a technical data set. The teams use a range of software platforms, including the iEnergy Halliburton Landmark DecisionSpace® Cloud Platform or locally installed Petrel E&P (WesternGeco), Kingdom™ (IHS Markit), or DecisionSpace® software. The teams utilize modern technology, gain an understanding of the exploration technical and business workflows used by oil companies, and ultimately recommend the best investment opportunities in their assigned data sets. For more information regarding the SEG EVOLVE program, please visit **seg.org/evolve**.

CORPORATE AND INDIVIDUAL INVESTORS

BRT Energy Advisors
Michael C. Forrest
Rocky and Leisa Roden

See page 45 for a listing of the 2019 EVOLVE teams and locations.

Map: 2019 EVOLVE team locations
Photo (page 18): EVOLVE participants gather during the 2019 SEG Annual Meeting in San Antonio

2019 STATS

GLOBAL REACH

20 TEAMS

127 PARTICIPANTS

15 COUNTRIES

137 total students have completed the EVOLVE program

HYDROGEOPHYSICS PROJECT IN NIGERIA

KENNEDY OKIOGHENE DORO

According to 2019 SEG Field Camps grant recipient Kennedy Doro, a deeper understanding of geophysics can best be gained by taking the theoretical and practical knowledge of the classroom into the field.

A geophysicist with an interest in soil and groundwater hydrology, the environment, and forensic geology, Kennedy speaks from experience. As a participant in multiple field camps, first as a student and then in his role as an assistant professor at the University of Toledo in Ohio, Kennedy has seen firsthand how field camps encourage students to explore geophysics, not just as a subject, but as a practice.

"**In the field, students and young professionals experience situations they would not encounter in the classroom and have the opportunity to integrate multiple geophysical methods to solve problems**," said Kennedy. "Field camps help students develop a better understanding of theory, a feel for the practical application of geophysics, and an appreciation for working as a team."

Kennedy credits the SEG Field Camps program with creating these kinds of opportunities and with helping to educate students and launch careers. "Hands-on learning is a key component to a well-rounded education, and SEG aims to provide students and members the tools needed for a successful career," said Kennedy. "Among its many educational offerings, the Field Camp program takes learning beyond the classroom and gives students an opportunity for real-world training."

Just such an opportunity presented itself to Kennedy in 2018, when he traveled to his home country of Nigeria as a visiting research fellow at the University of Ibadan. There, he saw how poor access to clean drinking water and environmental contamination had created critical challenges in the region. After his short course on modern hydrogeophysical techniques for soil and water resources management, one of Kennedy's students expressed an interest in learning more about the practical applications and skills needed to develop a solution.

"That was when I started exploring possible funding and project opportunities that could give these students exposure to field applications for solving the water and environmental challenges they faced," said Kennedy. "I already knew of the SEG Field Camp program and, after talking with a few colleagues, we submitted a proposal to SEG and were awarded the grant for a geophysics field camp focusing on the integration of geophysical and hydrogeological methods for addressing water resource challenges in Nigeria."

The project took about six months from planning to completion, spanning from June to December 2019. The field camp activities were conducted in October of that year and specifically addressed access to clean drinking water, flooding, and environmental contamination.

"**This field camp set a new precedent for geophysics education in Nigeria**," said Kennedy. "In combination with support from the American Geophysical Union and the Center for International Migration and Development in Germany, we have established a hydrogeophysics research site at the University of Ibadan. This is a first-of-its-kind field laboratory that will be useful for studying hydrological processes and developing and adapting hydrological and geophysical methods for solving local water and environmental challenges in the country. The field

research site is equipped with four test wells and will also serve as a teaching facility for field geophysical and hydrological methods."

But the work didn't stop there. Following the field camp, Kennedy took up the challenge of promoting knowledge and technology exchange, data-driven policies, and applied scientific research as mechanisms for driving progress in developing countries. "Well-trained, well-informed geoscientists are crucial for sustainable development as demands grow for Africa's natural resources and the continent's environment is impacted by global change," said Kennedy.

ABOUT THE SEG FIELD CAMPS PROGRAM

The SEG Field Camps program was established in 1993 by the SEG Foundation. Its aim is to provide seed money for geophysics faculty and SEG student chapters to create and support field courses that provide students with hands-on experience in data collection and analysis using geophysical instruments and software applications. This is often the first hands-on experience that many students will have in the pursuit of their geophysical career. Grant funding is intended to support projects that promote professional development, student support, and youth outreach goals, as well as valuable field training that emphasizes safety and high-quality learning. For more information regarding the SEG Field Camps program, please visit **seg.org/fieldcamps**.

CORPORATE AND INDIVIDUAL INVESTORS

TGS

GEOPHYSICAL PURSUIT, INC.

Endowment Funds: US$762,000
Rutt Bridges Summer Field Camp Grants
Richard Degner Field Camp Grants
Hank Hamilton Field Camp Grants
O. S. Petty Field Camp Grants
SAGE Field Camp Grants

See page 45 for a listing of the 2019 Field Camp Grant recipients.


BJ TEE PHOTOS

2019 STATS

APPLICATIONS

30 SUBMISSIONS

12 COUNTRIES

US$205,819 REQUESTED FUNDING

AWARDS/GRANTS

17 RECIPIENTS

11 COUNTRIES

MORE THAN 200 STUDENT PARTICIPANTS

US$108,738 TOTAL AWARDS

Values from US$3000–15,000 (average $6396)

BEST STUDENT CHAPTER AWARD

"SURROUND YOURSELF WITH PEOPLE WHO CHALLENGE YOU, TEACH YOU, AND PUSH YOU TO BE YOUR BEST SELF." — BILL GATES

In this instance, Mr. Gates could be speaking directly to the winners of the 2019 Best Student Chapter Award. Following a highly successful year of goal setting and collaboration with other student organizations, the University of Oklahoma (OU) SEG Student Chapter received top honors at the SEG Annual Meeting in San Antonio. The Student Chapter Excellence program recognizes existing SEG Student Chapters for their engagement with the Society. SEG Student Chapters empower students to participate and spearhead projects that will address issues, challenges, and opportunities related to SEG's mission of promoting the science of applied geophysics.

"The University of Oklahoma's SEG Student Chapter was deeply humbled to be awarded the Best Student Chapter at the 89th SEG Annual Meeting in San Antonio, Texas, last September. **This award completely transformed our student chapter, as we were able to deliver more academic and professional development opportunities, while also giving back to students within our local and global community**," said Julian Chenin, the chapter's president.

According to Julian, members of the OU chapter set and met a number of impressive goals for the 2018 academic year, all designed to encourage the personal and professional development of OU's geoscience student body. Through an effective combination of networking, mixers, social events, workshops, field trips, and courses taught by faculty, visiting professors, and industry professionals, the chapter reached fellow students in a whole new way, providing opportunities for growth and introducing them to new technologies.

"At the beginning of the semester, our goal was to focus on more outreach and to have a stronger presence within our local and global community. From the various events that we led throughout the year, we accomplished this by involving our OU community, our local community, as well as our international community," said Julian.

In addition, the chapter encouraged student participation at the 2019 SEG Annual Meeting and was able to provide transportation and housing for 18 students giving oral and poster presentations in San Antonio.

Also central to the chapter's success was collaboration with the Pick and Hammer Club and the University of Oklahoma AAPG Student Chapter. This collaboration helped promote events throughout the department and increased exposure of the SEG Student Chapter. The chapter is currently establishing local and international SEG sister chapters to encourage further collaboration and networking among students interested in petroleum science.

"The OU SEG Student Chapter has many great ideas planned for next year and we are looking forward to continue building on our momentum," said Julian. "We recently held our elections, and our officers are eager to start turning their ideas into reality to better help our student members. Our student chapter would like to thank SEG for this great recognition and opportunity for our students."

To learn more about this chapter's activities and accomplishments, please visit the SEG Wiki (**wiki.seg.org**) and search for the University of Oklahoma SEG Student Chapter.

ABOUT SEG STUDENT SUPPORT/CHAPTERS

SEG strives to create a culture of leadership that will take the geophysical community forward for years to come. Since a student's sense of belonging can be a strong predictor of their eventual success, SEG is committed to providing budding geophysicists with as many tools and networking opportunities as possible as they grow into their geophysical career.

SEG Student Chapters are an excellent resource to increase interest among students of geophysics. By providing opportunities for leadership, achievement, and cultivation of ideas, student chapters open the door for students to actively participate in projects and initiatives that promote geophysics. For more information on SEG Student Chapters, please visit **seg.org/studentchapters**.

INDIVIDUAL INVESTORS

Endowment Funds: US$1,604,555
Student Support Fund (anonymous donor)
SEG/Rutt Bridges Emerging Nations Grants
Brian Sabin Student Support Fund

Photo: SEG Student Chapter members from the University of Oklahoma accepted the 2019 Best Student Chapter Award during the SEG Annual Meeting in San Antonio.

2019 STATS

GLOBAL REACH

347 CHAPTERS (7 NEW IN 2019)

69 COUNTRIES

RECIPIENTS/AWARDS

2019 Best SEG Student Chapter —
University of Oklahoma, United States
US$5000 award

36 OUTREACH GRANT APPLICATIONS RECEIVED

10 RECIPIENTS

US$9798 TOTAL AWARDS

ELISE KOSKELO

SEG SCHOLARSHIP RECIPIENT

Photo: Elise Koskelo

"QUITE SIMPLY, SEG PROVIDES THE TOOLS, VALIDATION, AND SUPPORT STUDENTS NEED TO BUILD A CAREER."

Elise Koskelo was searching for scholarship opportunities online when she happened upon the SEG Scholarships program. Given her interest in seismology, she thought it seemed like a good fit and applied. Four years and four scholarships later, her instincts proved correct.

From her home in Los Alamos, New Mexico, Elise spoke recently about what the program has meant to her and why the rewards go far beyond the financial.

"The SEG Scholarships program has meant so much to me. Not only in terms of financial support, but also in terms of the confidence it's given me to pursue seismology and environmental science. Quite simply, SEG provides the tools, encouragement, and support students need to build a career," said Elise.

The Pomona College student and Tileston Physics Prize recipient was in high school when her career path shifted.

"I thought I was going to study architecture," said Elise. "I was trying to design an earthquake resistant building for a science fair project and became fascinated with structural engineering and geology."

"Then I fell in love with physics, and that's when everything came together. I've always been interested in climate change and in solving those problems and saw that I could pursue a more geophysics and environmental physics-oriented track," said Elise. "One thing just led to another."

Elise credits SEG with encouraging her to pursue a variety of independent research opportunities, including an internship with the National Oceanic and Atmospheric Administration studying weather forecast models and the arctic atmospheric boundary layer. She has also presented at the American Meteorological Society.

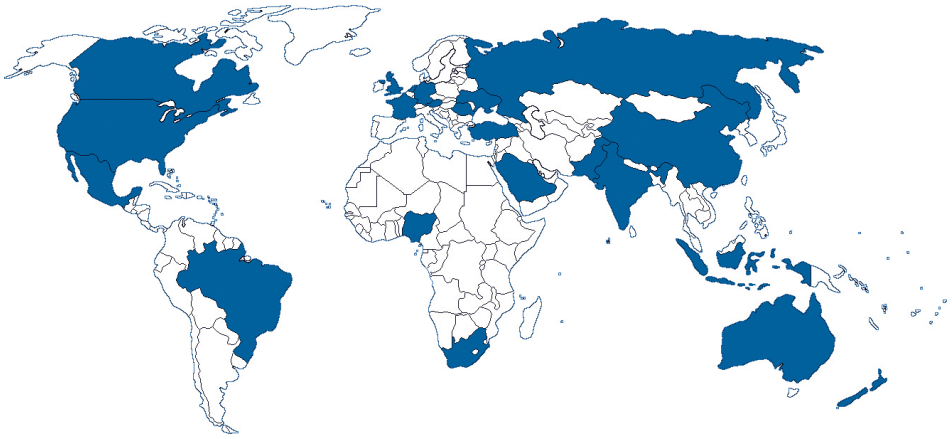
"Geoscience today is more diverse than ever before and can have an impact on our world in ways we might not have been able to imagine even a decade ago," said Elise. "**As one of the next generations of geoscientists, I hope to be a part of moving the field forward**."

In an effort to do just that, Elise is actively involved with a variety of organizations that support young women in the geosciences, including Women in Physics, ALPhA, and the Society of Physics. Through weekly lunches, outreach events, and discussion panels, Elise and her colleagues work with middle schools, alumni, and underclassmen to engage with those interested in geoscience careers. In addition, she enjoys mentoring and serves as a teaching

SCHOLARSHIP RECOMMENDATIONS SUMMARY 2019-2020

			North America by recipient university				International by recipient university			
Class	**Apps**	**Funds**	**Apps**	**Awards**	**%**	**Funds**	**Apps**	**Awards**	**%**	**Funds**
Freshmen	50	$21,757	47	13	27	$21,257	3	1	33	$500
Undergraduate	83	$111,537	45	21	47	$99,179	38	14	37	$12,358
Graduate	295	$445,169	159	57	36	$372,793	136	38	28	$72,376
Total	**428**	**$578,463**	**251**	**91**	**36**	**$493,229**	**177**	**53**	**30**	**$85,234**

Note: All monetary values are in U.S. dollars.



Map: Locations of 2019-2020 scholarship recipient universities

assistant helping other students with in-class and homework assignments.

At present, Elise is working to complete a paper for her senior research project and preparing to graduate from Pomona College. She looks forward to pursuing her MS degree in physics at the University of Cambridge and then plans to pursue her PhD.

"I am truly grateful to the Society and donors for their generous support throughout my undergrad program. **As a woman in science, that kind of validation can make all the difference in achieving future success**," said Elise.

ABOUT THE SCHOLARSHIPS PROGRAM

Since its inception in 1956, the SEG Scholarships program has helped advance the field of applied geophysics by encouraging students who excel in the subject. Approximately US$9 million in scholarship money has been awarded to date to the top geosciences students based on merit. The number of scholarships awarded depends chiefly upon the number of donors and the amounts they contribute. From freshmen just beginning their education to PhD students doing research to advance the field, SEG scholarship awardees are recipients of the most prestigious geoscience scholarships in the world. For more information about SEG scholarships, please visit **seg.org/scholarships**.

CORPORATE AND INDIVIDUAL INVESTORS

Anadarko Petroleum Corporation

equinor

Endowment Funds: US$7,866,880
48 individual, 14 corporate, 10 sections/societies funds

See page 46 for a listing of the 2019–2020 scholarship awards.

2019 STATS

APPLICATIONS

428 EVALUATED

215 UNIVERSITIES

61 COUNTRIES

AWARDS/GRANTS

144 RECIPIENTS

80 UNIVERSITIES

23 COUNTRIES

US$578,463 TOTAL AWARDS
Values from US$500–$10,000
(average US$4017)

Photo: 2019 SLS participants in San Antonio

SEG/CHEVRON STUDENT LEADERSHIP SYMPOSIUM

IT'S ALL ABOUT COMMUNITY

As president of her SEG Student Chapter, Dorothy Mwanzia was already on the leadership track. Participation in the SEG/Chevron Student Leadership Symposium (SLS) simply affirmed it.

SLS enables students to collaborate with peers and professionals from around the world. A graduate student at Jomo Kenyatta University in Kenya, Dorothy was one of only 50 geoscience students selected from a world-wide network of student chapters to participate in the two-day leadership symposium during the 2019 SEG Annual Meeting in San Antonio, Texas.

For Dorothy, the symposium provided an opportunity to learn more about how others manage the various challenges in their chapters. She credits the training she received through SLS for helping to hone her leadership and communication skills.

"As a leader, I want to understand the unique personalities within my team and take into account the opinions of each and every person to reach a common point of understanding," said Dorothy. "Participating in SLS has helped me to do that."

In addition to communication and team building, SEG student programs like SLS aim to increase student involvement in the field of geophysics by providing them with hands-on, real-world experience and exposure to the field beyond the classroom. Dorothy's involvement with her own student chapter began in such a way when she started participating in, and later organizing, field camps. "Through my student chapter, I became more aware and actively involved in various SEG programs, which led directly to participation in SLS," she noted.

Since first joining her student chapter in 2012, Dorothy has served as treasurer, vice-president, and president. Her current role as a cofaculty advisor allows her to oversee student activites and provide guidance where it's needed. She is now leading student chapters in Kenya and Zimbabwe, and has been contacted to set up other chapters as a result of a social media post that featured her in the SLS program.

Dorothy describes her SLS experience as lifechanging, and stresses the lasting value of relationship building through the program.

"Through SLS and the Annual Meeting, I met people from all over the world with whom I stay in touch. We assist one another with the challenges we face as well as with identifying new opportunities. Through connections made at SLS, I was able to submit an abstract for the IGC in India, which was accepted. The community aspect is what it's all about."

ABOUT THE SLS PROGRAM

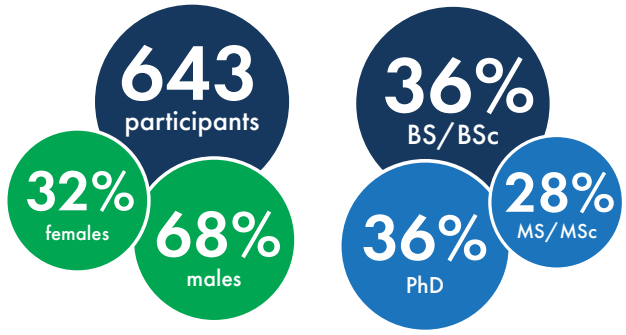
The SEG/Chevron Student Leadership Symposium (SLS) focuses on leadership, teamwork, and community skills building for 50 student participants who are all active officers of their SEG Student Chapters. This program, immediately preceding the SEG Annual Meeting, includes an address by the SEG president, best-practice presentations from select student chapters, professional leadership coaching, an organized team-building activity, and a strategic problem-solving session with the SEG Board of Directors and other Society leaders.

Chevron additionally supports the program by providing materials, speakers, and representatives to lead team exercises. Student travel grants cover the expenses for travel, lodging, and registration to the SEG Annual Meeting. For more information regarding SLS, please visit **seg.org/sls**.

CORPORATE INVESTORS

Chevron

SLS BY THE NUMBERS (2007–2019):*



*2010–2019 classification data (502 participants)

Photo: Dorothy Mwanzia making a presentation during the 2019 SEG/Chevron SLS program in San Antonio

2019 STATS

APPLICATIONS

83 APPLICANTS

APPLICANTS MUST BE ACTIVE SEG STUDENT CHAPTER OFFICERS

AWARDS/GRANTS

50 RECIPIENTS

50 UNIVERSITIES

21 NATIONALITIES

22 FEMALES, **28** MALES

24 PHD, **13** MS/MSC, **13** BS/BSC

US$115,000 TOTAL TRAVEL GRANTS

SEG/EXXONMOBIL STUDENT EDUCATION PROGRAM

BRENT LARY

Brent Lary first heard of the SEG/ExxonMobil Student Education Program (SEP) when his student advisor received information about the program and encouraged him to apply.

"I didn't know what to expect when I applied, but the program exceeded anything I might have imagined. SEP brings together different people with different specialties, and provides different opportunities for learning."

A graduate student at Ohio State University, Brent was one of 30 university students from around the world awarded a travel grant to participate in SEP and attend the 2019 SEG Annual Meeting in San Antonio, Texas.

SEP is a short course staffed with leading ExxonMobil geoscientists who act as instructors and facilitators through two-and-a-half days of lectures and discussion, followed by practical, hands-on exercises directly related to geoscience/geophysical work performed in the oil industry.

Though Brent will graduate this year with a master's degree in petroleum geochemistry, he wasn't initially sure where his career path lay. He had always had an interest in both science and history and liked that geology combined the two. He also liked the diversity inherent in the oil industry. "With petroleum, a lot of different fields come together to find solutions," said Brent. "It's like solving a puzzle, and I find that fascinating."

In that regard, the collaborative aspect of the program proved enormously helpful. "**The ability to work with peers and instructors across specialties was invaluable**," Brent noted. "The diversity of their backgrounds and knowledge helped me fill the gaps in my own geophysical knowledge and provide exposure to topics with which I wasn't as familiar."

According to Brent, the entire program ran like a well-oiled machine. The instructors were there to provide guidance and answer any questions throughout, and peers became friends.

"Though I enjoyed every aspect of the course, my favorite part was actually toward the end, when we got to work our way through various hypothetical situations," said Brent. "It was competitive, it was exciting, and it gave us the opportunity to work together, share information, and put what we had learned into practice."

Following graduation, Brent looks forward to conducting research in the geochemistry lab, submitting papers for publication, and seeking work in the oil industry. Brent was enthusiastic when describing the ways that SEP helped him fine-tune his skillset.

Photo: 2019 SEP participants in San Antonio

Photo: Brent Lary and SEP teammates

"SEP made me a better geologist and petroleum geologist, and helped familiarize me with the type of geophysical data I will need in my profession," Brent continued. "I highly recommend it to anyone who would apply," said Brent. "And now, if I ever need geophysical help, I know where to find it."

ABOUT THE SEP PROGRAM

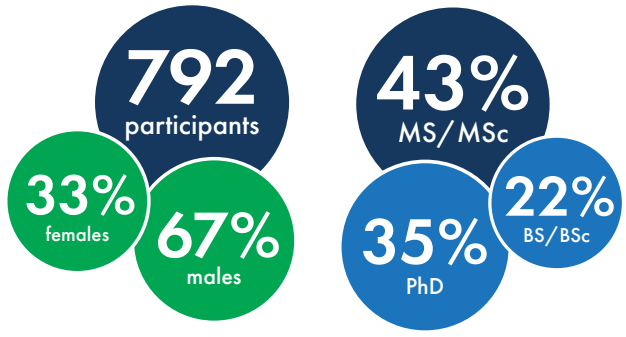
The SEG/ExxonMobil Student Education Program (SEP) is staffed with leading professional geoscientists who act as instructors and facilitators for 30 student participants over two-and-a-half days of lectures and discussion followed by practical hands-on exercises. This program, immediately preceding the SEG Annual Meeting, includes lectures and exercises directly related to geoscience/geophysical work performed in the oil industry.

ExxonMobil additionally supports the program by providing course materials and instructors to lead team exercises. Student travel grants cover the expenses for travel, lodging, and registration to the SEG Annual Meeting. For more information regarding SEP, please visit **seg.org/sep**.

CORPORATE INVESTORS

ExxonMobil

SEP BY THE NUMBERS (2008–2019):*



*2010–2019 classification data (645 participants)

2019 STATS

APPLICATIONS

112 APPLICATIONS

AWARDS/GRANTS

30 RECIPIENTS

30 UNIVERSITIES

18 NATIONALITIES

14 FEMALES, **16** MALES

12 PHD, **17** MS, **1** BS

US$57,033 TOTAL TRAVEL GRANTS

SEG TECHNICAL PROGRAM TRAVEL GRANT:

SARAH MORTON RUPERT

Photo: Sarah Morton Rupert

For Sarah Morton Rupert, it all started in the 6th grade when a study of volcanoes sparked an enthusiasm for earth science. Once in high school, physics also captured her interest, and she found a way to combine the two in pursuit of an education in geophysics. A native of Oxford, Connecticut, Sarah went to the University of Connecticut, where she received her undergraduate degree in geoscience and fulfilled a long-held dream to work with the local office of the U.S. Geological Survey. She then embarked on a master's degree in civil engineering.

It seems a career in science has always appealed to Sarah. After all, it runs in the family. "My dad is an electrical engineer from MIT, so **I always looked at science as a way to solve problems and help people**. Combining geophysics with civil engineering seemed like a good way to do that."

Armed with her master's in civil engineering, Sarah accepted an offer to work as a research geophysicist at the University of Kansas (KU) in 2014. It was at KU that Sarah got involved with SEG, first as a student member, then as a student representative for the Near-Surface Geophysics Technical Section (NSTS). She has since served in various leadership roles with the NSTS, culminating in her current position as vice chair of the committee.

Sarah credits her mentors and colleagues in SEG, as well as the SEG Technical Program Travel Grant, with creating such opportunities. The travel grants provide funding for students and recent graduates who are chosen to present a paper at the SEG Annual Meeting and cover expenses related to travel, accommodations, and costs associated with the meeting.

"I've presented at every Annual Meeting since 2015. It's one of my favorite meetings to attend because of my involvement with the near-surface section," said Sarah. "I was excited to apply for and receive the SEG Travel Grant. I don't know of any other conference that provides that kind of financial support."

In addition to presenting their research to a live audience, travel grant recipients have the opportunity to engage in other activities available at the meeting, as well as network with peers, professionals, and industry experts.

"From a student perspective, being a part of the program allows you to finance your own travel and not have to rely on others. **It changes the way you think about the Annual Meeting. You become independent and have the freedom to make the meeting your own**," said Sarah.

As a proponent of near-surface activities at the Annual Meeting, Sarah has organized a series of events including career panels and networking functions between students and seasoned professionals. In doing so, she has recruited participants who normally wouldn't attend the Annual Meeting, all from the near-surface sector.

"My goal is to help demonstrate how the civil engineering and geophysics communities play well together, and how they can play better," said Sarah.

Not one to neglect her studies, Sarah will soon receive her master's degree in geology and will pursue a PhD in civil engineering, all while working as a research professor. She also plans to host a BAG session for the SEG 2020 Annual Meeting, "The value of near-surface geophysics."

Sarah's commitment, drive, and personality shine through in everything she does. Above all, she is passionate about connecting with others. To that end, she offers a suggestion. "The competition for grants is keen, and I'd like to see student travel grant winners get the recognition they deserve. Give those folks a ribbon so they can identify one another and network," she laughed.

STUDENT TRAVEL/REGISTRATION GRANTS

Students and recent graduates interested in participating in SEG-sponsored student programs are encouraged to apply for SEG travel and registration grant assistance. In addition to travel grants provided through the Student Leadership Symposium (SLS) and Student Education Program (SEP), SEG Technical Program Travel Grants and Student Registration Grants were provided to students presenting (technical program and/or posters) at the 2019 SEG Annual Meeting in San Antonio, Texas. Registration grants were also made available for students presenting at the 2019 SEG/EAGE Geophysical Aspects of Smart Cities workshop in Singapore.

Photo: Students gather at the 2019 SEG Annual Meeting in San Antonio

Student travel grants are intended to cover the expenses for travel, lodging, and registration to the SEG Annual Meeting. Student registration grants are available to cover either a portion or all of the registration cost for specific meetings. For more information regarding student travel grant opportunities, please visit **seg.org/travelgrants**.

INDIVIDUAL INVESTORS

Arthur Cheng

Endowment Funds: US$114,000
SEG/Rutt Bridges Annual Meeting Travel Grants
Student Support Fund


Photo: Sarah Morton Rupert working in the field.

2019 STATS

APPLICATIONS

40 ANNUAL MEETING TRAVEL GRANT APPLICANTS

600+ STUDENT REGISTRANTS FOR ANNUAL MEETING

RECIPIENTS/AWARDS

23 TECHNICAL PROGRAM TRAVEL GRANT RECIPIENTS

50 ANNUAL MEETING STUDENT REGISTRATION GRANTS

9 SEG/EAGE SINGAPORE WORKSHOP STUDENT REGISTRATION GRANTS

US$50,275 TOTAL AWARDS

SEG CHALLENGE BOWL

The SEG Challenge Bowl combines knowledge, competition, and fun on a global stage for geoscience students. Students from around the world participate in local and regional competitions to qualify f.for the Challenge Bowl World Finals at the SEG Annual Meeting.

Photo: Rosario Etchegoyen and Sol Bejaran celebrate with emcee, Peter Duncan, after winning the bowl

For Rosario Etchegoyen and Sol Bejaran, qualifying for the Challenge Bowl World Finals was more than an opportunity to compete for honors with an elite group of peers. Both advanced students in geophysics at the National University of La Plata in Buenos Aires, Argentina, Rosario and Sol brought home a Challenge Bowl World Finals win in 2019, just as a team of fellow students had done the year before.

"I participated in the national Challenge Bowl in 2017, but could only get to the second round," said Sol. "My best friends, Santiago Actis and Abelardo Romero, are the winners of the 2018 SEG Challenge Bowl, and they encouraged me to participate."

Not that Sol shies away from participation. Active in the University of La Plata's SEG Student Chapter since 2014, Sol will be the chapter's president in 2020. According to teammate Rosario, the university's student chapter always makes sure the students are aware of upcoming SEG activities.

"**This was my first competition, but I've seen other students participating in previous Challenge Bowls, and it seemed like a lot of fun**. It helped that Sol had participated before and could tell me a bit more about the dynamic of the competition," noted Rosario.

Rosario and Sol joined forces as the only undergraduate team at the 2019 Challenge Bowl World Finals at the SEG Annual Meeting in San Antonio.

"We felt proud making it to the finals, and representing our university in this way," said Rosario. "I think it was really important for us because we were the only team of women. The results of the competition helped us show that the involvement of female students in geosciences is growing with every passing year."

"Having been the only team made up of two women, and having won, was an immense satisfaction," agreed Sol. "We were able to demonstrate the gender equality that we hope is reflected in the industry."

The SEG Challenge Bowl has become a favorite program for students and allows them to engage, compete, and network on an international stage. **For Rosario and Sol, the benefits also went well beyond the competition**. Attending the Annual Meeting allowed them to connect with students from other universities and observe the workings of an international conference devoted to geophysics.

"It was a really unique and rewarding experience," said Rosario. "Not only did I have the opportunity to compete in the Challenge Bowl, I was also able to go to the SEG Annual Meeting for the first time, which is amazing for students."

For Sol, the experience was equally gratifying. "Connecting with people from various companies and universities around the world was very important to me. One of the companies requested my CV. I also met a wonderful individual who was interested in my thesis topic and offered to help me with it," she said.

When it came time to compete, they found the Challenge Bowl to be a lot of fun and slightly nerve wracking. "For me, it was like something from another world," observed Sol. "The competition is like a TV show. I was really nervous and thought I was going to forget everything I knew. All of the other teams consisted of PhD students, which was a little intimidating. But the moderator [Peter Duncan] put us at ease so we could relax and enjoy the competition. I definitely recommend it."

While a bright future most certainly lies ahead for these two, for now, they are concentrating on their education. Rosario plans to focus on applied geophysics and complete her degree. Sol, meanwhile, is a few courses away from starting her thesis on the use of GPR and

electrical prospecting methods and hopes to work in the geophysical exploration sector once she completes her studies.

On a personal level, these teammates share a great deal of gratitude and no small measure of school pride. “It helps our university to be seen and acknowledged worldwide,” said Rosario. The fact that we were able to make it this far was because of the high level of education we’ve received.”

“As students of a free public university, we are especially proud to have won,” Sol agreed. “The Challenge Bowl made it possible for us to show those who provide support and scholarships the potential of the students at our university. It’s a great thing.”

ABOUT THE SEG CHALLENGE BOWL PROGRAM

The SEG Challenge Bowl is a unique event that combines knowledge, competition, and fun. This international contest tests students’ breadth and depth of knowledge about the field of geoscience. Contestants try to push the buzzer first to answer challenging geoscience questions on topics including geology, geophysics, geography, and geodesy. Questions about the history of the science and the Society are also featured. Geoscience questions range in difficulty from second- and third-year undergraduate level to first-year graduate level.

Winners of regional competitions competed in the SEG Challenge Bowl World Finals during the SEG Annual Meeting in San Antonio, Texas, 16 September 2019. For more information about the SEG Challenge Bowl, please visit **seg.org/education/student/seg-challenge-bowl**.

INDIVIDUAL INVESTORS

Numerous individual donors

Endowment Funds: US$335,500
Fred and Kathi Hilterman
John W. C. Sherwood

Photo: 2019 Challenge Bowl World Finals in San Antonio

2019 STATS

WORLD FINALS

10 TEAMS COMPETED

20 STUDENTS TOTAL

RECIPIENTS/AWARDS

First place — Rosario Etchegoyen and Sol Bejaran, National University of La Plata, Argentina

Second place — King Fahd University of Petroleum and Minerals, Saudi Arabia

Third place — University of Houston, United States

US$1500 TOTAL AWARDS

PATRICK DUFF

NEAR SURFACE RESEARCH AWARD WINNER

"I AM A STRONG BELIEVER IN COLLABORATIVE, MULTIDISCIPLINARY RESEARCH AND AM COMMITTED TO INSPIRING A NEW AND DIVERSE GENERATION OF EARTH SCIENTISTS."

Photo: Patrick Duff

Founded by the Near-Surface Geophysics Technical Section, the SEG Near Surface Geophysical Research Award provides financial support to undergraduate or graduate students engaged in near-surface geophysics research.

In 2019, the Society honored Patrick Duff, a graduate research fellow in geology and geophysics studying the evolution of rifted continental margins at the University of South Carolina. Patrick was selected for his study to understand shallow marine clastic reservoir heterogeneity using GPR (ground probing radar) and drone imagery on the coastal plain of South Carolina.

Patrick's research aims to supply deterministic inputs to geostatistical reservoir models at the bed and bed-set scale by building a high-resolution 3D geologic model of a suitable modern reservoir analogue for a strand plain deposit. The geologic model integrates reflection GPR sections, GPR velocity surveys, Vibracores, and rotary wing drone data. The model will also incorporate uncompacted measurements of grain size, porosity, and permeability, which will permit the calibration of the model to similar deposits in the subsurface. **The goal is to better estimate net-to-gross and to capture the geometry of impermeable layers at the sub-seismic scale in order to better predict reservoir performance**.

"The sharing of theoretical advances, technology developments, and best practices are essential for the advancement and effective application of near-surface geophysics," said Patrick. "**The use of new technologies has been integral to my research**."

Patrick specializes in tectonics, sedimentology and stratigraphy, applied geophysics, and modeling. His research is focused on rifted continental margins, seismic and potential field methods, near-surface geophysics, and petroleum and energy geoscience.

In pursuing his research, Patrick emphasizes the integration of geologic and geophysical data sets across spatial scales, as well as a balance between

Photo: Patrick Duff (far right) working in the field.

purely scientific and applied aspects. “I’m interested not only in patterns of rift-related mafic magmatism, but also in evaluating how mafic igneous rock bodies might serve as a reservoir for CO_2 sequestration,” said Patrick.

In addition to his research, Patrick is an active member of the Society of Exploration Geophysicists, the American Association of Petroleum Geologists, the American Geophysical Union, the Geological Society of America, and Global H2O. His articles have been published in a number of magazines and journals, including *Geology*, *Tectonophysics*, and *South Carolina Geology*.

Most of all, he believes in encouraging others along the way. “I am a strong believer in collaborative, multidisciplinary research,” said Patrick. “And am committed to inspiring a new and diverse generation of earth scientists.”

“My thanks to the Near-Surface Geophysics Technical Section of SEG for this award and to the individual donors who support it through contributions to the SEG Foundation.”

ABOUT THE SEG NS RESEARCH AWARD

The SEG Near Surface Geophysical Research Award is intended to provide a research grant(s) in support of an undergraduate or graduate student in good standing, enrolled in a relevant academic program at an accredited institution, and engaged in near-surface geophysics research. The award is further intended to offset expenses directly related to the awardee’s near-surface geophysics research, including field data acquisition, laboratory studies, specialized computer software, or other general activities. For more information regarding this award, please visit **seg.org/ns**.

INDIVIDUAL INVESTORS

Endowment Funds: US$33,461
Near-Surface Geophysics Technical Section of SEG and others

2019 STATS

APPLICATIONS

5 APPLICANTS

AWARDS/GRANTS

1 RECIPIENT

US$1,064 TOTAL AWARD

HISTORICAL PRESERVATION

A sense of history can contribute to community pride and to a better understanding of the community's present. The former SEG Historical Preservation Committee was established to continue the preservation of important artifacts, instruments, and documents that had previously been a part of the SEG Geoscience Center. Now known as the Historical Preservation Special Interest Group (HP SIG), volunteers continue to visit and clean the artifacts that were placed in temporary or permanent locations throughout Oklahoma and Texas.

Many of SEG's artifacts are hosted by the Geophysical Society of Houston (GSH) at their Geoscience Center and Museum in West Houston, Texas. This facility is used to store, maintain, and refurbish geophysical artifacts in the collection that are not presently on display at other locations. Additionally, the center holds workshops for teachers and includes resources to create interactive displays, hands-on activities, educational materials for school career days, classroom presentations, scouting fairs, science fairs, or other opportunities for interaction with students.

The museum accepts artifacts, photos, and other items that document the rich history of the geophysical profession and related industries. All items are cataloged and preserved. Temporary and permanent displays are prepared and installed at the Geoscience Center and at various educational institutions and company offices in Texas and beyond. The museum also includes the Bob Sheriff Library, with a collection of over 1700 books, reports, and training manuals, and a large collection of periodicals. Library items are available to check out or to use at the Geoscience Center.

Additionally, SEG teamed up with the GSH in 2019 to catalog more than 1300 artifacts within the SEG Wiki to create a virtual museum. These items have been cataloged and are maintained by GSH members. Special thanks to Bill Gafford, Ed Lengel, and Karl Schleicher for making it possible to add these items to the SEG Wiki. The Virtual Museum can be viewed by members at **wiki.seg.org/wiki/category:virtual_museum**.

INDIVIDUAL INVESTORS

Endowment Funds: US$190,486
Cecil and Ida Green and others

2019 STATS

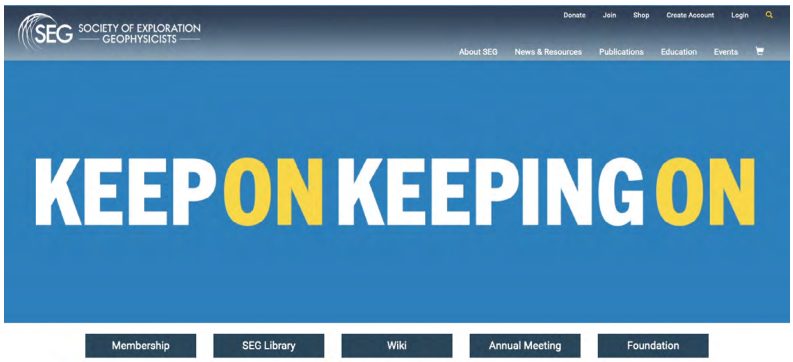
US$6,096 TOTAL GRANTS

2 RECIPIENTS

Photo: The Lone Star College North Harris display

Photo: A group gathering at the Museum

WIKI.SEG.ORG/WIKI/CATEGORY:VIRTUAL_MUSEUM



SEG ONLINE

Members benefit from SEG's leading online services and value-added content concerning all things geophysics. SEG works diligently to add value for its members and other visitors by producing and maintaining online information that is useful and timely.

Ongoing efforts are made to leverage information and technology in an efficient, productive, and secure manner. Improved security features of the website help visitors feel secure when navigating the content and when providing personal and payment information to SEG for transactional purposes. Improving search features and functionality, updating promotional items, allowing visitors to opt-in to targeted e-mail campaigns, and enhancing the dues renewal process for members are just some of the ways that SEG enriches its website experience. SEG also manages the appropriate hardware, software, networking, and communications infrastructure for automation.

SEG LIBRARY

One of SEG's many online educational applications is the SEG Library, a premier applied-geophysics collection for students, researchers, and practitioners of geophysics. Much work was completed in 2019 to expand the content and functionality of this application for ease of use by SEG members.

Online access to journals and conference proceedings include:

- *The Leading Edge*
- GEOPHYSICS
- *Interpretation*
- Journal of Environmental and Engineering Geophysics (JEEG)
- Western Profile
- SEG eBooks
- Expanded abstracts with biographies
- Global meeting abstracts
- Geofacets — SEG Millennium Edition

INDIVIDUAL INVESTORS

Endowment Funds: US$214,620
Rutt Bridges and others

2019 STATS

US$8,585 TOTAL GRANTS

DONOR RECOGNITION

CORPORATE INVESTORS

Many industry leaders have partnered with the SEG Foundation to give back to the geophysical community that has supported them over the years. Corporate Sustaining Investors create new opportunities and expand on existing services provided through SEG to its membership and to the general public.

The SEG Foundation and SEG recognize and thank our Corporate Sustaining Investors. The recognition list below is organized by lifetime giving to the SEG Foundation, including major contributions and employer matching programs.

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TOTAL
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Santos
IHS Markit
Marathon Oil Corporation

Note: All monetary values are in U.S. dollars.

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Sadly, the SEG Foundation lost eight Trustee Associates in 2019. Each made a significant difference in the lives of those they knew and will be sincerely missed in our geophysical community and Foundation family.

Davendra K. "Dave" Agarwal
1936–2019
Trustee Associate since 1997
Survived by wife Roshan Agarwal

Robert J. "Bob" Graebner
1924–2019
Trustee Associate since 1990
Survived by wife Esther Graebner

Cicely "Mary" Brown
1941–2019
Trustee Associate since 2000
Survived by husband Alistair R. Brown

John D. Laker
1930–2019
Trustee Associate since 1990
Survived by wife Patsy Laker

Neal P. Cramer Sr.
1926–2019
Trustee Associate since 1989

Jane C. Peacock
1928–2019
Trustee Associate since 1989
Preceded in death by Elwin Peacock

Floyd F. Foster Jr.
1924-2019
Trustee Associate since 2006

Catherine I. "Katy" Threet
1926–2019
Trustee Associate since 2009
Survived by husband Jack C. Threet

*deceased

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Sustaining Trustee Associates form an elite group of SEG Foundation contributors that share an ongoing commitment to the vitality of the SEG Foundation's activities. Sustaining Trustee Associates are existing Trustee Associate members who have made an additional commitment of US$2000 (or more) to the Annual Fund.

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2019 HIGH VELOCITY DONOR CLUB

Members of this distinguished donor club receive special opportunities to engage with leadership of SEG and the SEG Foundation, allowing for a higher level of involvement with Foundation activities. Members choose their giving level from US$1000–$9999 in support of the Annual Fund.

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2019 DOODLEBUGGER SOCIETY DONOR CLUB

This is a special club that calls on the colorful history of geophysics for its name. "Doodlebugger" participation marks the beginning of a very special and personal relationship with the SEG Foundation. Members are recognized with a donation between US$100–$999 in support of the Annual Fund.

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CANADA:
Memorial University of Newfoundland — Baie Verte Geophysics Field Camp
University of Alberta — Geophysics field school: Raising the future generation of geophysicists

COLOMBIA:
Industrial University of Santander — Electromagnetic and magnetic methods to determine areas of fluid flow at shallow depths in cm volcano

NIGERIA:
University of Ibadan — Integrating geophysical and hydrogeological methods for hydrological model parameterization

POLAND:
AGH University of Science and Technology — 2019 SEG Field Camp

ROMANIA:
University of Bucharest — Hydrogeophysical investigation of the environmental hazards from the Romanian Black Sea coastline

RUSSIA:
Novosibirsk State University — King's response

SOUTH AFRICA:
University of Witwatersrand — AfricaArray International Geophysics Field School

TURKEY:
Istanbul Technical University — Multi-method geophysical prospecting in Göbel-Tavşanlı Region, Turkey

UKRAINE:
Taras Shevchenko National University of Kyiv — Geoscience Field Camp in Ukraine 2019

UNITED STATES:
Colorado School of Mines — 3D geophysical characterization of the mother spring (Pagosa Springs)
Purdue University — Summer of Applied Geophysical Experience (SAGE)
Rutgers University, Newark — Geopaths: A geophysics field camp to recruit under-represented minorities into the geosciences
University of Hawaii at Manoa — Hydrogeophysics in volcanic environments, Summer school program
The University of Texas at Austin, Jackson School of Geosciences — GeoFORCE Texas 10th Grade Academy
The University of Texas at Austin, Jackson School of Geosciences — Marine Geology and Geophysics Field Course

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Make a gift by check. Please make your check payable to "SEG Foundation" and mail it directly to our Tulsa business office at 8801 S. Yale Ave., Suite 500, Tulsa, OK 74137 USA. If making a year-end gift, the date (postmark) you mail the check is considered the date of delivery.

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SEG Wiki: wiki.seg.org

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The SEG Foundation can be found on the following charitable rating sites (search for “SEG Foundation” with the organization location in Tulsa, OK):

Guidestar: guidestar.org

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