

A DGS Magazine

# THE OIL DROP

December 2019 Edition





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# President Message



I am honored and privileged to serve as your Dhahran Geoscience Society (DGS) President for the 2019-2020 term alongside our enthusiastic and hardworking executive committee members and many volunteers. I am thankful to our 2018-2019 Executive Committee for their great contributions taking the society to another level through the three initiatives; Inquire, Grow, and Explore.

As one of the leading Societies in the region, we are committed to continue the success of over three decades of the society by expanding our programs within our three platforms of Technical Exchange, Professional Development, and Public outreach. The diverse programs for this year cover a wide range of disciplines through workshops, technical and professional meetings, courses, mentorship programs, field trips, young professional events, students' programs and competitions, and many other events throughout the term. In this term, we have introduced "Meet the Leader" series where our young professionals have the chance to meet with top-notch leaders who are sharing their experience and knowledge.

I would like to thank our sponsors, volunteers, and affiliates for their continuous and generous support.

I invite you to join us and enjoy the rest of the journey.

Sincerely,  
Khalaf AlTemimi  
DGS President

# Meet the Team: 2019-2020 Elected Executive Committee



**Khalaf AlTemimi**  
President



**Abdulaziz AlMansour**  
President-Elect



**Abdullah AlQahtani**  
VP Technical Exchange



**Nasher AlbinHassan**  
VP Public Outreach



**Saad Al Shehri**  
VP Professional Development



**Ghaith Alshaia**  
Field Trip Coordinator



**Fares Al Aboud**  
Technical Publication Officer



**Naif Alassaf**  
Technical Meeting Officer



**Hussam AlSadeg**  
Professional Meeting Officer



**Khalid Alotaibi**  
Public Event Officer



**Hamad Almakhaytah**  
Secretary



**Fayrouz Al Essa**  
Young Professional Officer



**Haya Alubaidan**  
Social Media Officer



**Ibrahim Alyami**  
Treasurer



**Ali Rabaan**  
Academic Liaison Officer



**Waleed Algharbi**  
Mentorship Program Officer



**Dana AlAbdulkarim**  
Membership Liaison Officer



# Meet the Team





# DGS 2018-2019 Recognition Ceremony

On July 08, 2019, the Dhahran Geoscience Society held its annual Recognition Ceremony to celebrate the successes and achievements throughout the term, and to recognize the people who made the term a successful one. The DGS Recognition Ceremony was attended by DGS members, volunteers, and sponsors.

The Ceremony started with a recap of the highlights of the 2018-2019 term. A recognition of the DGS volunteers was followed, then a recognition of the sponsors and the DGS executive committee. The DGS Recognition Ceremony marked the end of the 2018-2019 term and the beginning of the 2019-2020 term.

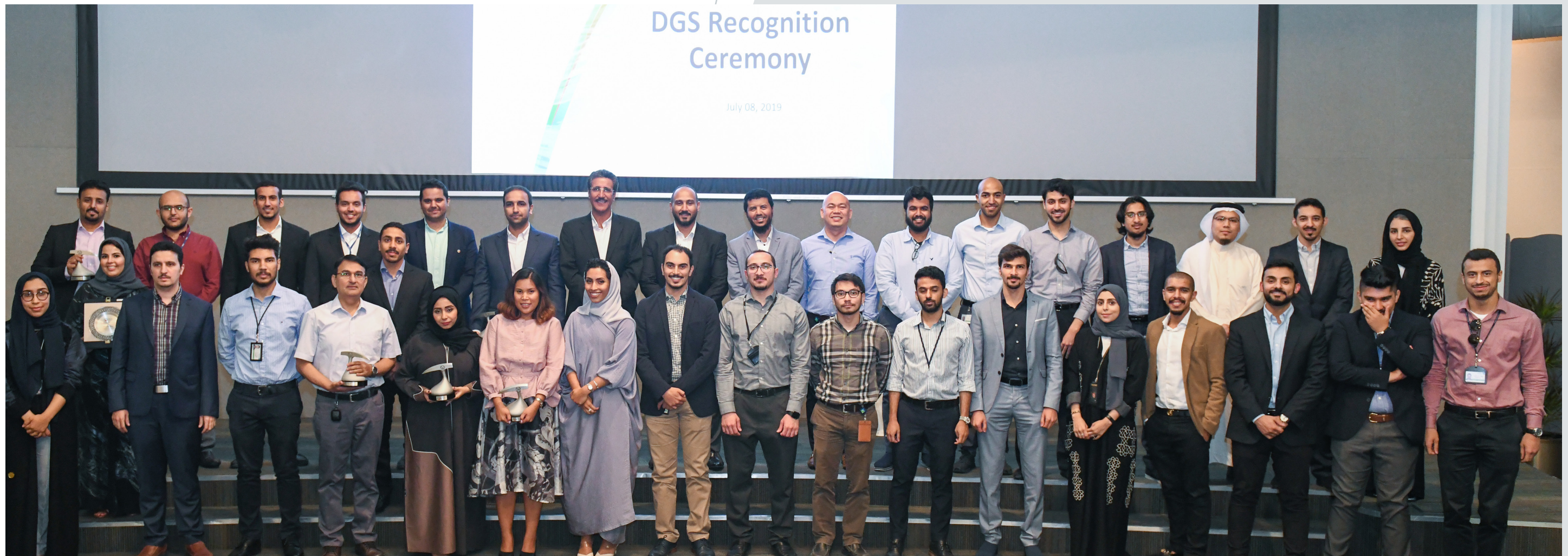


**Mr. Misfir AzZahrani,**  
**Executive Director of Exploration Organization**



## DGS Recognition Ceremony

July 08, 2019





# Professional Development Platform



In the DGS Professional Development Platform, the Society promotes "Personal Growth" throughout events targeting career advancement, innovation challenges, mentorship and specialty awareness.

As part of Dhahran Geoscience Society (DGS) grow initiative to promotes personal growth, DGS organized three events of "Meet the Leader Series". In the series, the leaders share their wisdom and experiences with the young professionals. In addition, DGS organized two additional events to achieve the initiative's goal, presenting with impact as part of Mentorship Series and ergonomics for energy.

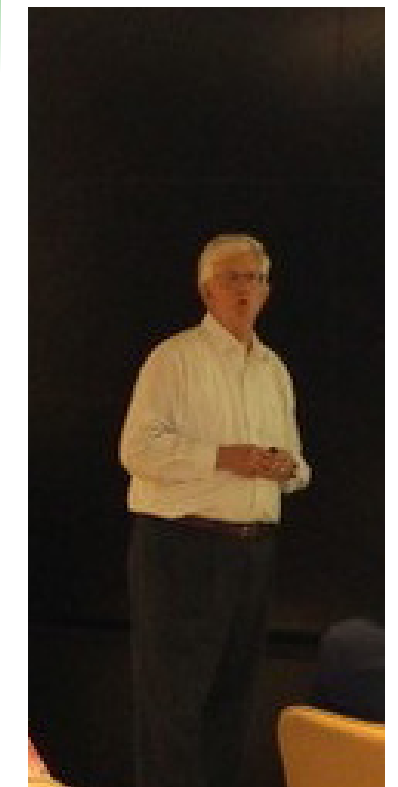


## Meet the Leader Series:

The First YP event was held on August 26, 2019 in Dhahran, The event featured Jeffrey Aldrich, Vice President of AAPG and Senior Geoscientist with MHA Petroleum Consultants, a Sproule Company.

Jeffery gave a talk titled "10 Rules for Exploration and Development Success: what they never teach you in school". Jeffrey shared stories from his 40 years of global oil and gas experience working from frontier exploration through appraisal to large development projects and expertise is in unconventional reservoirs, prospect evaluation, reserve determinations and multi-discipline and multi-culture team dynamics.

### Jeffrey Aldrich





On September 30th, the second event of "Meet the Leader" Series took place in Dhahran. The guest speaker was Dr. Aus Al-Tawil, manager of Southern Area Reservoir Characterization Department. Dr. Aus has worked in Gas Fields Characterization as a Carbonate Sequence Stratigrapher and led the Khuff special studies team

## Aus Al-Tawil

In addition to leading various different divisions in Reservoir Characterization and other upstream ventures. His talk was titled "Sense of Purpose—in light of professional and personal life." The one-hour session was interactive between Dr. Aus and the attendees.



On December 26, 2019, DGS hosted Mahmoud Abdulbaqi for the third event of "Meet the Leader" series. Mahmoud is the Chairman of the Board of Directors of ARGAS a geophysical company which is a joint venture between TAQA of Saudi Arabia and CGG of France.

## Mahmoud Abdulbaqi

He is also Chairman of the board of the International Petroleum Technology Conference ( IPTC ), a Hong Kong joint venture between the American Association of Petroleum Geologists ( AAPG ) , European Association of Geoscientists and Engineers ( EAGE ) , Society of Exploration Geophysicists ( SEG ) , and Society of Petroleum Engineers ( SPE ) and served as its Chairman. Mahmoud gave an inspiring talk titled: "Take Charge of Your Future Career".

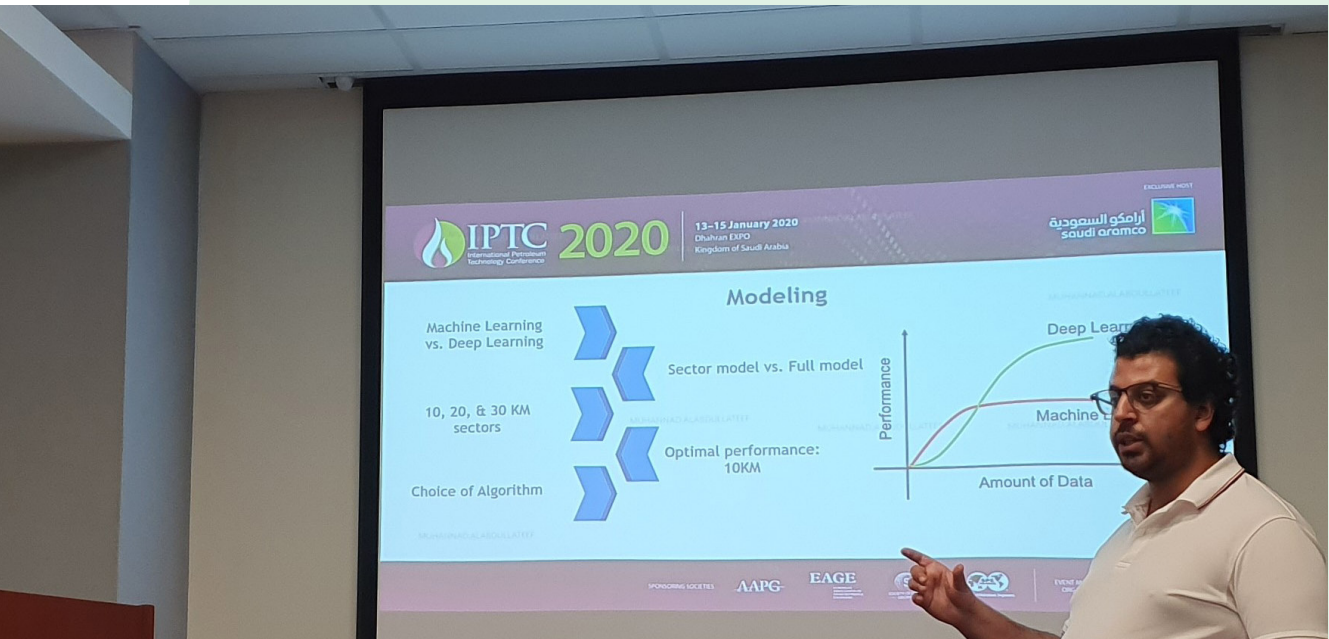




# Mentorship Series

## Presenting with Impact

Presenting with Impact is a collaboration program with Toastmasters New Discovery Club to provide DGS members with the opportunity to practice their presentation skills and receive feedback from experienced coaches. Sixteen participants with a vast range of experience, from less than five years to more than 15 years, has registered to prepare for presenting in conferences, workshops and/or courses. The program lasts for four weeks with a session every week.



# Ergonomics 4 energy

On November 18th, 2019, the first session of the wellness Series took place in Dhahran. The guest speaker was Paul Burgess. Paul is currently working with the Human Energy Management to create a better understanding of the importance to energy management within the company by helping to engage, motivate, and energize Saudi Aramco employees.





# Technical Exchange Platform



## inquire! DGS initiative

In the DGS Technical Exchange Platform, the Society promotes "inquiring minds" throughout events that encourage participants to expose technical doubts, arguments, and to evaluate solutions. Local and world-renowned scientists and professionals were invited to present their work and share their experiences at the Dhahran Geoscience Society (DGS) Technical Luncheon Meetings as part of the society's mission to expand the knowledge of its members in the Oil and Gas Industry.

### Technical Luncheons Series:

As part of Dhahran Geoscience Society (DGS) inquire initiative to expand the knowledge of its members, DGS hosted three Technical Exchange meetings in the past few months. These meetings were of diverse themes discussing exciting topics of artificial intelligence applications, seismic velocity estimation, and astronomical forcing in carbonate reservoirs.

## Dr. Serkan Dursun

On September 5, 2019, DGS hosted Dr. Serkan Dursun of Saudi Aramco for a technical meeting luncheon at the Technical Exchange Center in Dhahran. Dr. Dursun is a Data Scientist in the Advanced Analytics Group of Saudi Aramco's Corporate Applications Department. Previously, he worked as a Principal Data Scientist with Marathon Oil Corporation, a Data Scientist with Schlumberger, and as a Senior Technologist and Software Developer in the Drilling, Production & Economics department at Halliburton. Dr. Dursun has more than 15 years of technical experience in a broad spectrum of research and development in Engineering and Data Science. Dr. Dursun gave an exciting talk titled: AI-Powered Geoscience in the 4th Industrial Revolution (IR 4.0).







## Dr. John Etgen

On October 31, 2019, DGS hosted Dr. John Etgen, SEG Distinguished Lecturer for a technical meeting luncheon at Salat Al-Khaleej in Dhahran. Dr. Etgen gained a Bachelor of Science Degree in Geophysical Engineering from the Colorado School of Mines in 1985 and a doctorate in Geophysics from Stanford University in 1990. He began his industrial career in late 1990 at the Amoco Production Research Company in Tulsa, Oklahoma. John currently serves as assistant editor for the scientific journal Geophysics and continues to work in the upstream technology organization at BP. Dr. Etgen talked about Practical Insights and Techniques in Seismic Velocity Estimation.





On December 9, 2019, Dr. Fred Read was hosted by DGS for a technical meeting luncheon at the Plaza Conference in Dhahran. Dr. Read received his Ph.D. in 1970 from the University of Western Australia on modern carbonate sediments, Shark Bay, Western Australia. He was at Virginia Tech 1973-2012. He and his students have worked on evolution of passive and active carbonate margins in the Proterozoic, Paleozoic, Mesozoic and Cenozoic in North America,

**Dr. Fred Read**

Europe, Australia, and the Middle East. His awards include Outstanding Paper Award, Jour. Sedimentary Research (twice). AAPG Distinguished Lecturer, Eastern AAPG Outstanding Educator, Pettijohn Medal for Excellence in Sedimentary Geology (SEPM), Grover Murray Memorial Distinguished Educator Award (AAPG) and Sloss Award for Excellence in Sedimentary Geology (Geol Soc America). Dr. Read talked about Astronomical (Milankovitch) Forcing in Carbonate Reservoirs: Influence on Reservoir Layering.





## Special Technical Session

On October 16, 2019, DGS hosted Robert Shoup, AAPG vice president, regions, for a special session. He talked about the Cost of Bad Maps. Bob Shoup is the Chief Geologist for Subsurface Consulting & Associates LLC (SCA) and the Director for Clastic Reservoir Systems. He is a Board Certified Petroleum Geologist with over 40 years' experience in basin analysis, regional studies, new play generation, and prospect evaluation.

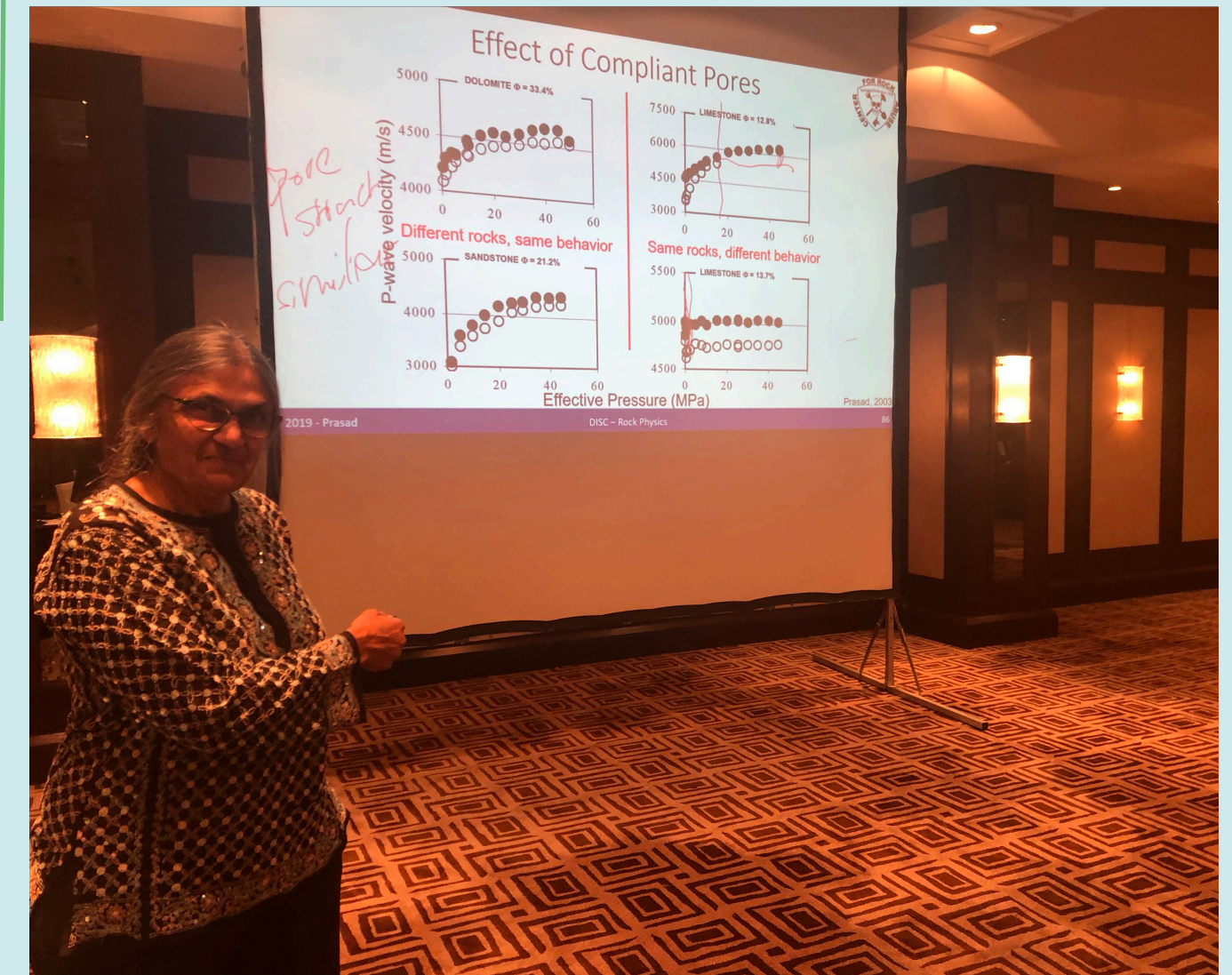
He is currently the AAPG Vice President, Regions, Past Chair and Secretary of AAPG House of Delegates, Past President of Bangkok SEAPEX, Past President and Vice President of AAPG's Division of Professional Affairs, past Chair of the AAPG Membership, Mentor, and Student Chapter Committees.

### Robert Shoup



## SEG 2019 Distinguished Instructor Short Course (DISC)

DGS co-hosted SEG 2019 Distinguished Instructor Short Course (DISC) as a collaboration between SEG & DGS. The course was given by Dr. Manika Prasad of Colorado School of Mines. She is the recipient of the Virgil Kaufman Gold Medal in 2017, the Outstanding Educator Award (2015), and the AAPG-SEG Distinguished Lecturer Award (2012). The course was titled Physics and Mechanics of Rocks: A Practical Approach. Two main sections were covered in the course: Section I. Rock Physics Fundamentals and II. Advanced Topics in Rock Physics. The course was conducted in Bahrain and was attended by several interested geoscientists.





## Technical Workshop

As part of its role in the region, DGS organized a field trip to Dammam Dome as part of the technical program of AAPG Workshop titled "Integrated Emerging Exploration Concepts: Challenges, Future Trends and Opportunities". The workshop took place in Dhahran, 2-4 December 2019. Mr. Salvatore Di Simone led the field trip to Dammam Dome outcrop.





# Become a Member

To join us, please scan the QR code



For more enquiries about membership,  
please contact the membership liaison

✉ [membership@dgsonline.org](mailto:membership@dgsonline.org)

## Get Involved

Become a Volunteer

✉ [volunteer@dgsonline.org](mailto:volunteer@dgsonline.org)





# Public Outreach Platform



In the DGS Public Outreach Platform, the Society is expanding its outreach and is focusing on "branding" and organizing all activities into well-defined themes.

## Elderly Visit

Members of Dhahran Geoscience Society (DGS) Public Events Team and volunteers visited the elderly in Dar Alreayah in Dammam on December 4, 2019. The visit was to meet the elderly both male and female, and get to know the programs offered at the facility.



## King Fahd Specialist Hospital Visit

On September 29, 2019, Members of DGS Public Events Team and volunteers visited the Pediatric Oncology Department at King Fahd Specialist Hospital in Dammam. The objective of this visit was to distribute gifts to children fighting cancer and put a smile on their faces.





# DGS Booth at IT-PDP Forum

On November 19, 2019, Dhahran Geoscience Society (DGS) participated with a booth in IT PDP event. The participants were introduced to Dhahran Geoscience Society from historical prospective, technical events, and social activities. In addition, DGS organized short general geoscientific knowledge based competition for the participants.



# DGS Booth at 11th Annual CPP Community Service Fair

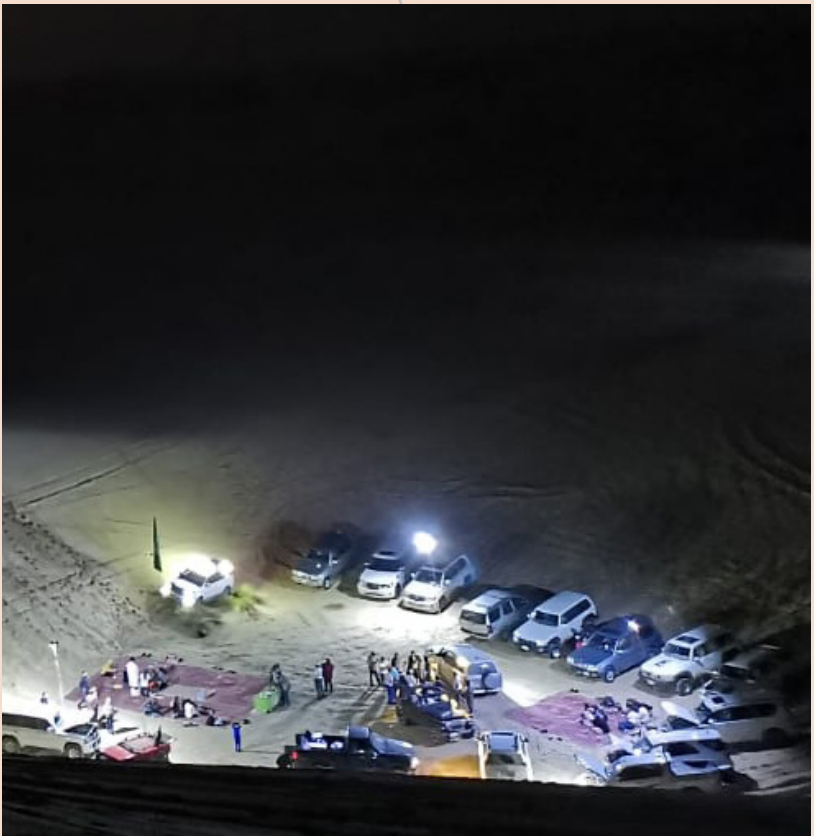
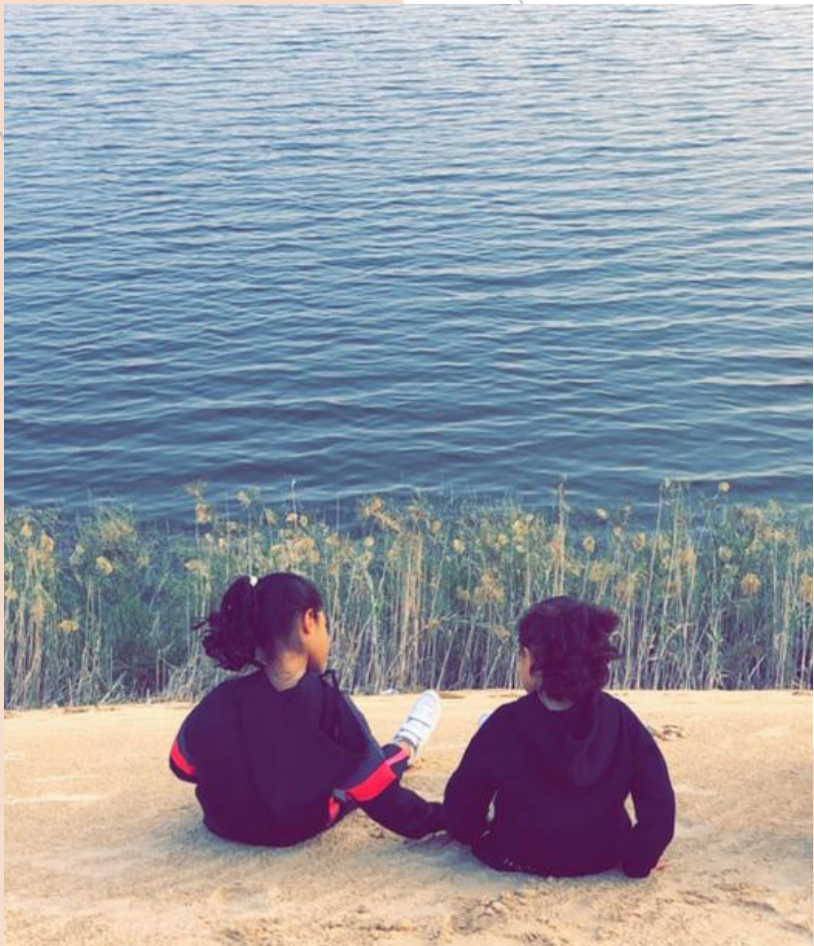
Dhahran Geoscience Society participated in the College Preparatory Program (CPP) 11th Annual Community Service Fair on September 26, 2019. The full day event took place in CPP building Auditorium, where DGS booth was adjacent to multiple organizations involved in community service. Many volunteers from DGS helped out in organizing the booth, provide giveaways, and copies of Oil Drop magazine.





# Fanajeel Sand Dune Field trip

"Explore!" is a DGS initiative to promote geoheritage sites in the Kingdom of Saudi Arabia and the Eastern Province in particular. DGS organized a trip to experience a desert night with BBQ dinner at the magnificent "Fanajeel" sand dunes near Al-Ahasa. The participants started by enjoying sand dunes riding adventure using 4X4 cars to arrive to Al-Asfar Lake where they enjoyed watching the sunset there. The group then headed to the camp site for dinner.





# Upcoming Events

## Upcoming Field Trips:

Explore! A DGS Initiative: The Untold Story of **Al-Qassim**, a Trip to the Richest Region in Saudi Arabia **(27-29 February 2020)**



Explore! A DGS Initiative: DGS Camping Trip at **Shuwaymis** UNESCO World Heritage Site **(26-28 March 2020)**



Inquire! A DGS Initiative: Technical Field Trip as part of GEO2020 program, Advances in Jurassic Stratigraphy: Sequence Stratigraphic Scheme for the Middle-Upper **Jurassic, Jabal Tuwaiq, Central Saudi Arabia (14-15 March 2020)**





## INFORMATION

### 2<sup>nd</sup> SEG | DGS Workshop: Advances in Quantitative Seismic Reservoir Characterization 15–16 March 2020 | Bahrain

#### Registration:

Register by 14 February 2020 and save!

Please email form to [hdalisay@seg.org](mailto:hdalisay@seg.org) or fax to +971 4 372 4204.

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#### Workshop Description:

Seismic data has been extensively used in the quantitative description of the reservoirs in the last few decades. This practice relied on the ability of the elastic data to identify and to quantify the reservoir in three dimensions. The advances in seismic data acquisition, processing and inversion has facilitated this advancement. The last workshop addressed the challenge of integrating seismic data into static reservoir models using key seismic reservoir characterization inputs such as petrophysics, rock physics and seismic inversion. This workshop will focus on the effective integration of geological, geophysical and engineering data in building robust dynamic earth models. As the industry trend is moving towards big data analytics and machine learning, the workshop will explore the utilization of these algorithms to aid in the effective integration of the various complementary data types required for an optimal quantitative description of the reservoirs.

#### Technical Topics:

- Seismic imaging: FWI, multi component, velocity model building
- Converted wave data
- Seismic attributes
- Rock physics modeling and seismic facies
- Role of machine learning
- Seismic inversion
- 4D seismic
- Fracture characterization and geomechanics
- Integrating static with dynamic models

#### Who Should Attend:

Geophysicists, geologists, petrophysicists and petroleum engineers specializing in seismic imaging, interpretation, sedimentology, sequence stratigraphy, reservoir modeling and seismic reservoir characterization from industry and academia.

#### Venue:

Intercontinental Regency, Bahrain

#### Attire:

Business casual or smart casual is suggested for the workshop sessions. We suggest you bring a jacket for the air-conditioned meeting rooms. Business casual is suggested for the Icebreaker.

#### For more Information:

Hyra Dalisay – SEG Middle East

Telephone: +971 4 372 4880 | Email: [hdalisay@seg.org](mailto:hdalisay@seg.org)

## CALL FOR ABSTRACTS

### ARMA | DGS | SEG International Geomechanics Symposium 3–5 November 2020 | Al Khobar, Saudi Arabia

#### CALL FOR ABSTRACTS

Please e-mail the abstract and the call for abstracts form to [aklerk@seg.org](mailto:aklerk@seg.org) or fax to +971 4 372 4204

#### REGISTRATION

OPENS 11 MAY 2020

REGISTER BY  
2 OCTOBER 2020  
AND SAVE!

#### PLATINUM SPONSOR:



#### SILVER SPONSOR:



#### PARTNERS:



#### SYMPOSIUM DESCRIPTION

##### Theme: Optimizing Production and Recovery from Naturally and Hydraulically Fractured Reservoirs

American Rock Geomechanics Association (ARMA), Dhahran Geoscience Society (DGS) and Society of Exploration Geophysicists (SEG) are proud to announce the upcoming ARMA/DGS/SEG International Geomechanics Symposium on 3-5 November 2020 in Al Khobar, Saudi Arabia. This event will feature speakers including operators, technology developers, and service providers, who will share a wide range of geomechanical knowledge, experience, and challenges in rock characterization. The symposium will also address case studies, technology highlights, and collaborative discussions on geomechanics during the three days.

#### Objective:

To provide a platform to:

- Exchange geomechanics experience and know-how among technology developers, providers, and practitioners
- Connect global geomechanics expertise and knowledge with regional challenges
- Provide world-class geomechanics training to next generation professionals and students

#### ABSTRACT SUBJECTS

We invite abstracts for the following topics:

- Rock and in-situ stress characterization, including SRV characterization
- Natural fracture characterization and interaction with hydraulic fracture
- Drilling geomechanics in naturally fractured reservoirs
- Hydraulic fracturing:
  - In highly stressed tight and unconventional rock
  - Across differential depleted units
  - Planning, preventing, and mitigating casing deformation
  - Diagnostics integration
  - Production and recovery
- Completion optimization with multi-frac stimulation
- Reservoir geomechanics for well planning and design, including depletion effect
- Carbonate geomechanics for field development
- AI Geomechanics modeling and applications (artificial intelligence & machine learning)



# CALL FOR ABSTRACTS

Deadline: 23 APRIL 2020

## SEG | DGS Workshop: Challenges & New Advances in Velocity Model Building

29 September – 1 October 2020 | Al Khobar, Saudi Arabia

### CALL FOR ABSTRACTS

CLOSES 23 APRIL 2020

Please e-mail the abstract and the call for abstracts form to [aklerk@seg.org](mailto:aklerk@seg.org) or fax to **+971 4 372 4204**

### REGISTRATION

OPENS 23 FEBRUARY 2020

REGISTER BY  
28 AUGUST 2020  
AND SAVE!

### WORKSHOP DESCRIPTION

Velocity model building is the most important and critical element in seismic data imaging. The demands of exploring more complex new frontiers in particular will not be fulfilled without accurate velocity models. Understanding the fundamentals, and then challenging the approximations of seismic velocity estimations, limitations and pitfalls in practical applications, are the main keys of building the most accurate integrated velocity model. This approach, which exploits the relationship between the refraction, reflection, surface waves and non-seismic data, considers the wave propagation which is based on strong simplified assumptions. Accurate velocities are the main challenge for improving seismic data and depth prediction. For example, near-surface irregularities require accurate velocity models for proper imaging of the deep subsurface. Moreover, high-resolution velocities are also desirable for wave-equation based migration algorithms required for subsalt imaging.

The workshop is designed to provide insights for geoscientists to better understand the principles and limitations of both current and emerging technologies involved in velocity model building. As a result, participants should ideally understand how contemporary velocity estimation methods work, and what approximations are involved in obtaining computationally tractable solutions.

### ABSTRACT SUBJECTS

We invite abstracts for the following topics – oral and posters:

- Role of acquisition
- Near surface
- Non-seismic methods
- Borehole seismic
- Wave equation tomography
- Waveform inversion
- Anisotropic velocities
- Time and depth imaging
- Calibration, depth conversion and validation
- Big data and machine learning
- Case studies

Image source – Cui et al, <https://doi.org/10.1190/tle34121474.1>

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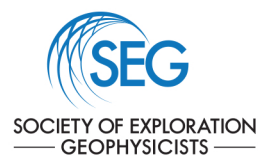
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