



September 2020

# SandRose

## Magazine

*Anira Alkabi*



Kingdom of Saudi Arabia Section

celebrating  
**NINETY**  
years



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## SEPTEMBER 2020 EDITION

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[sandrose@spe-ksa.org](mailto:sandrose@spe-ksa.org)

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FEATURE!**

**SHARE YOUR FAVORITE PIECES  
BY SCANNING THE QR CODES  
ACCOMPANYING EACH ARTICLE  
AND FEATURE!**

**04** Message from the  
Editor-in-Chief

**05** Meet the Sandrose  
Team

**06** Message from  
the Chairman

**07** Meet the SPE-KSA  
Executive Board



**08** Webinar on AI &  
Blockchain

**10** E4Me with SPE-Ghana

**11** Energy Summer Camp

**13** Leave No Trace  
Workshop

**14** Drill a New Well  
Webinar

**16** National Day Activities

**24** Weatherford  
Sponsorship

**30** The Importance of  
Pore-Scale in Producing  
Hydrocarbons



**32** Success Begins with  
Saudi

**34** A Petroleum  
Engineer's Guide to  
Making the Perfect  
Espresso

**36** Breast Cancer  
Awareness

**39** Book  
Recommendations

**40** Our Young Writers

**42** Saudi Arabia Special  
Feature





# MESSAGE FROM THE EDITOR-IN-CHIEF

This edition of SandRose Magazine marks the first edition for the term 2020-21. The beginning of a new term, like all beginnings, is exciting and hopeful – and aren't we all looking for a little hope after the rollercoaster that goes by the name "2020"? This edition, like those that precede it, highlights the hard work, dedication and creativity of SPE-KSA's teams and volunteers, and SandRose's editors and contributors. But what makes this edition truly unique is that it showcases SPE-KSA's commitment to education, citizenship and environmental stewardship.

In this edition, you will find two webinars that serve the development of our reader's technical and soft skills. In their focus on education, Technical Programs hosted a webinar on Artificial Intelligence and Blockchain Technology and Trips & Social Activities hosted one on the importance of mental wellbeing. Furthermore, Student Outreach continued with its Energy4Me sessions and held a two-week Energy Summer Camp for Elementary School students. Last but not least, in its efforts in environmental stewardship, Trips & Social Activities held an environmental stewardship workshop under the title of "Leave No Trace" and, in its focus on citizenship, held an array of National Day activities.

Additionally, this edition features our sponsor, Weatherford, with an article on digitalization written by Jim Hollingsworth, Vice President of Weatherford. This is followed by various technical and non-technical articles by our valued contributors. SandRose continues to focus on health & fitness with topics that are in keeping with current circumstances. This time, last year, we focused on mental health. This year, we are focusing on Breast Cancer since October is Breast Cancer Awareness Month. This edition, our book recommendations page is also in keeping with our overall theme, Saudi Arabia's National Day. In line with this theme, we extend a thank you to Haya Alsamari for sharing with us pictures from her adventures across the Kingdom to share with our readers. Finally, SandRose is incorporating a new section into its publications, "Our Young Writers", to encourage young writers to pursue writing and develop their skills with the help of our editorial team.

As we move forward and begin this new term, I encourage you all to use SandRose as a platform for knowledge sharing, skill honing and ideation. Our publication aims to, first and foremost, highlight SPE-KSA's activities. However, another goal of ours is to showcase the rich talent in our beloved Kingdom and to elevate the expertise and knowledge of our readers. I have no doubt that, with your contributions, SandRose will continue to go above and beyond in serving its professional and local communities.

**HALA A. ALHASHMI**  
Editor-in-Chief



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# MEET THE SANDROSE TEAM



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Contributor

# MESSAGE FROM THE CHAIRMAN

We would like to extend a warm and sincere welcome to our valuable members at the start of this second term 2020/2021. With you, we have been able to achieve great accomplishments and complete major milestones despite all the challenges during the past term.

Last year, the section sustained its position as a technical and professional leading platform through several programs and events. We have successfully shifted the section into a new phase that influenced our members professionally and personally. All of these accomplishments were realized through ground-breaking initiatives such as YOU 2.0, SPE-KSA Webinar Series, Endogenous, the newly established loyalty program, among other community outreach initiatives.

All of these initiatives and programs are aligned with our strategic objectives which aim to promote the Kingdom's regional leadership and international competitiveness.

In order to improve and meet the expectations of our valued members, I ask you to play a pivotal role in this transformation by communicating your recommendations and suggestions for new programs and initiatives.

I will be pleased to receive and review your suggestions through the email: [suggestions@spe-ksa.org](mailto:suggestions@spe-ksa.org).

Finally, I would like to congratulate our members on earning the section's excellence award, which was the result of your active engagement and participation.

I am looking forward to your contributions to the section and its members.

**ABDULAZIZ K. AL SUFAYAN**  
Chairman, SPE-KSA



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# SPE-KSA 2019-2020 EXECUTIVE BOARD



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## JOIN SPE-KSA FAMILY NOW!

SPE-KSA section is considered one of the largest and most decorated SPE sections in the world with more than 10,500 members.

For more information about how to join SPE-KSA family, visit [spe-ksa.org/membership/](https://spe-ksa.org/membership/)



# AI AND BLOCKCHAIN TECHNOLOGY IN THE ENERGY INDUSTRY

## TECHNOLOGY PROGRAMS WEBINAR



**JON CURTIS**  
 Founder of B2B Matrix and the  
 Petrolink Group

Technical Programs continued hosting industry pioneers and leaders in its webinar series as part of its mission to continue delivering high level technical and professional content to its members in safe and healthy settings.

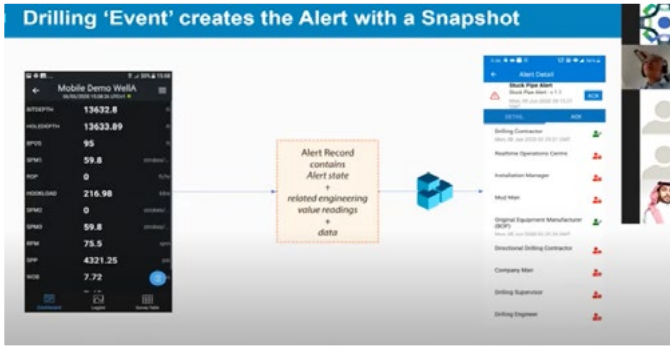
SPE-KSA Technical Programs’ July webinar titled “The Application of Consensus Blockchains in the Energy Industry” was delivered by Jon Curtis. Jon Curtis is the Founder of B2B Matrix, a company that’s researching the implementation of Blockchain in the Energy Sector. He is also the Founder of the Petrolink Group, which specializes in Data Acquisition and Management Solutions for the Upstream Oil & Gas Industry. Additionally, he is an active SPE member and an avid supporter as he is a member of numerous professional organizations and is the current Liaison Officer for SPE’s Drilling Uncertainty Prediction Technical Section (DUPTS). Curtis has also authored multiple SPE papers with an emphasis on data architecture of real-time drilling and completion information and the integration of real-time drilling sensor data with drilling reporting data.

The webinar, held on July 6th, touched on how the Fourth Industrial Revolution is creating and advancing many digital transformation programs around the world and especially in the oil & gas industry, hoping to lead to substantial improvements in Operational Efficiency. This transformation brings efficiency and cost optimization, both of which could pave the way for sharp increases in business margins in today’s world.

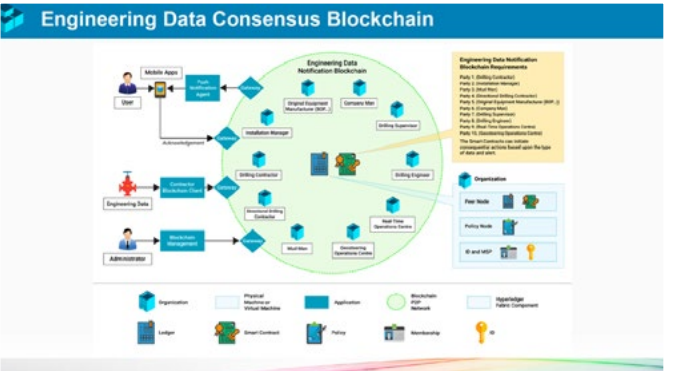
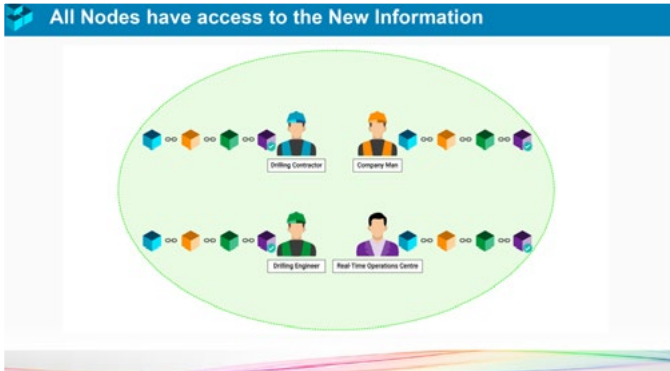
The webinar continued to shed light on one aspect of 4IR that Mr. Curtis sees as a disruptive force for change and as the next big thing after the internet, Blockchain (or as it’s sometimes termed “Distributed Ledger Technology (DLT)”). Blockchain technology has found its demand in the financial sector due to its efficiency and digital trust in a time of increasing cybersecurity concerns.

Mr. Curtis then explained that Blockchains are shared and distributed data structures or ledgers that can securely store digital transactions that cannot be altered. Importantly, Blockchains also allow for the automated execution of smart contracts in peer-to-peer (P2P) networks, such as those that exist in the Distributed Consortium Networks of the Remote Edge Sites of the Exploration and Production Sectors. The webinar also addressed many examples of how Blockchains could be used in the energy industry and how they could be beneficial in many areas such as drilling, where real-time drilling parameters can be stored, transferred and automatically analyzed for safer and more efficient drilling operations. The webinar was concluded by a reiterating and going deeper into how this technology could be beneficial to the world as well as the energy industry.

To view this webinar link, go to the following link <https://youtu.be/EqKd8K54JVs> or scan the QR code below.



	PUBLIC	PRIVATE/CONSORTIUM
ACCESS	OPEN READ/WRITE	PERMISSIONED READ AND/OR WRITE
SPEED	SLOWER	FASTER
SECURITY	PROOF OF WORK PROOF OF STAKE OTHER MECHANISMS	PRE-APPROVED PARTICIPANTS
IDENTITY	ANONYMOUS PSEUDONYMOUS	KNOWN IDENTITIES





# COLLABORATION WITH SPE-GHANA

Virtual Energy4Me Session

August 4<sup>th</sup>, 2020

SPE-KSA certified Energy4Me trainers Rabab Al-Meshikhes, Hala Alwagdani, Hamoud Alkhaldi and Mohammed Omer virtually-delivered a Train-the-Trainer session for SPE members in Ghana through Zoom. The session was attended by 80 SPE members from various Ghanaian universities, and aimed to educate them on the initiative and teach them how to conduct experiments about concepts in oil and gas to their local schools. The 3-hour session was rich with knowledge sharing, as well as discussions about misconceptions of the oil and gas industry.

This is the second session that SPE-KSA members deliver to Out-of-Kingdom SPE members. Back in June, SPE-KSA member Noor Albasheer co-delivered a virtual training session with Lou Jean Rodriguez from SPE International to 20 participants from all over Europe. Through these virtual training sessions, SPE ensures that the Energ4Me initiative is delivering its objective even in these unprecedented times.

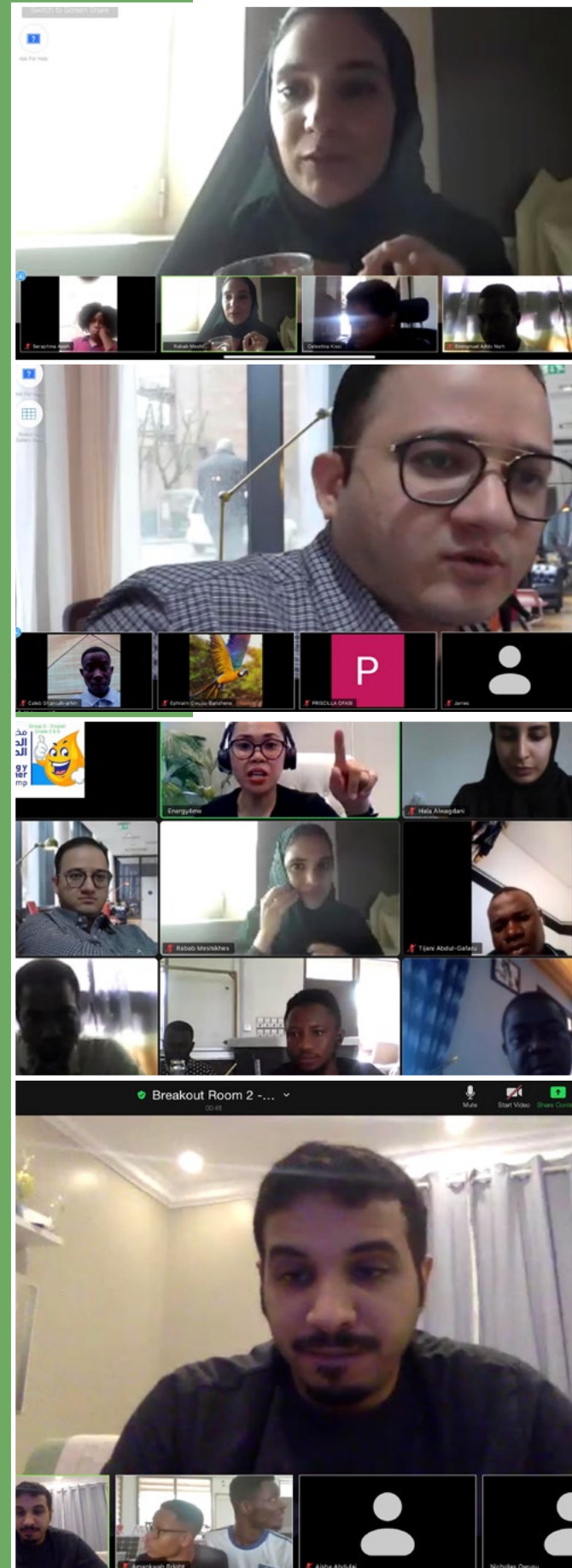
"The Energy4me trained facilitators from the SPE-KSA team have been instrumental in the success of some of the virtual member training held for sections and chapters looking to continue to reach out to their local schools and communities despite the pandemic. In fact, members from the Ghana Section who were trained with the help of SPE-KSA's facilitators have already started helping other members conduct their very own Energy4me event within their region", says Jean Rodriguez from SPE International.

It is worth noting that 20 members of SPE-KSA are certified to deliver Energ4Me workshops that spark the youth's interest in the oil and gas industry, and correct any misconceptions associated with it.

Written By: Rabab Al-Meshikhes



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# LEARNING DURING A PANDEMIC

SPE-KSA Holds "Energy Summer Camp" for Elementary School Students

After two weeks packed with interactive learning, the SPE Student Outreach team concluded the SPE-KSA Energy Summer Camp on August 20<sup>th</sup>, 2020. Forty-three elementary school students (grades 3-6) attended the camp and were divided into groups based on age and language preference (Arabic/English). Twenty-one SPE-KSA presenters and content creators helped in delivering the program through Zoom. Through home experiments, students learned about the different energy sources, how we extract oil and gas, and how to improve the future of energy.



“

"It was such a rewarding experience to share knowledge with the youth. I loved how eager the students were to learn new concepts about energy virtually. I will definitely do it again."

Fatimah AlBalawi, Presenter

"I am proud to be instructing in the Summer camp program that deals with young, bright and talented kids. They are fast learners and link information quickly with our daily observations, which made the sessions smooth and fun."

Ziyad Alisa, Presenter

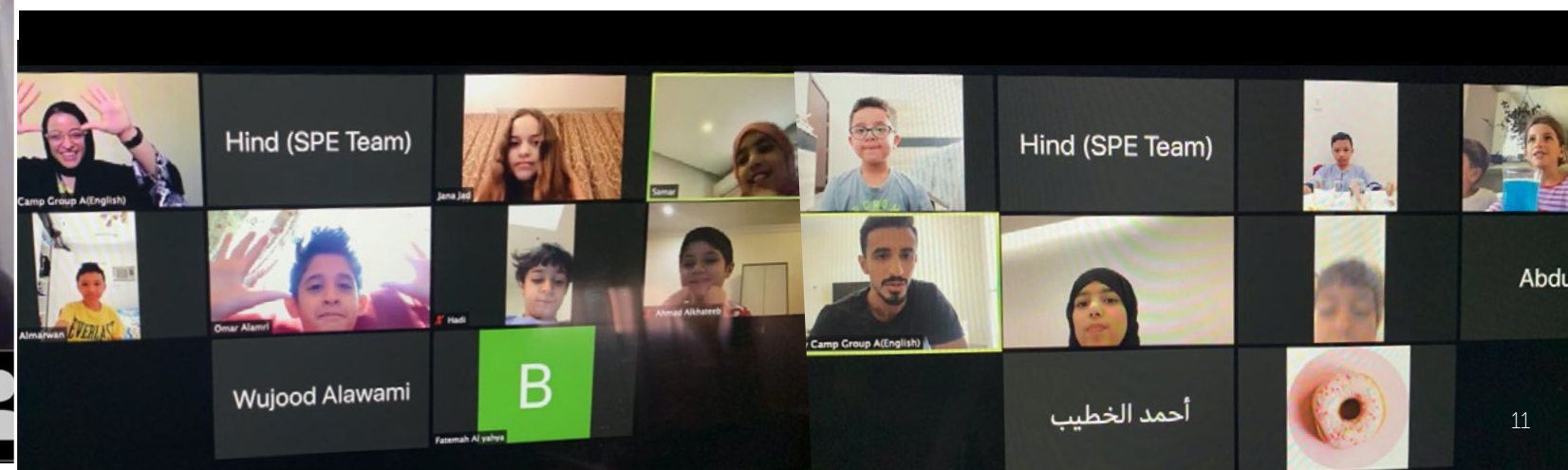
"At the end of the program, I would like to sincerely thank you for the wonderful program. The program was excellent in combining knowledge and fun, and my kids are really sad that it's over. I am very proud that such program was created by the Society and hope that you continue to organize similar programs."

Ali and Hadi Abualsaud's Parent

"My daughter enjoyed the course and learned a lot. Your methods of delivering the information are excellent and my daughter was able to talk about what she learned in every lesson. Thank you so much for this program."

Samar Alismael's Parent

”

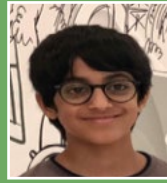






"I had a great experience as I learned what is petroleum engineering, how to get oil out and what to use to do that and how objects float and others sink and more. I liked that all the teachers were super nice and doing the experiments was amazing. I would like to be a geologist in the future."

Lamar Alibrahim, 4th grade student



"I have learned a lot from the program. We looked at the history of energy, such as wood and coal, and now we have a lot of renewable and non-renewable energy sources. We also learned about finding oil and gas and how to get it out of the ground. The program was fun and the instructors made it simple to understand. My experience was really fun and I had a great time."

Abdullah Alamer, 6th grade student



"What I liked the most from the program was that the topic is relevant to our day to day life such as energy conservation, oil and gas and sustainable energy sources. The program taught us about the importance of energy in our lives. During the program, we participated in experiments by using water, honey, oil and grapes to understand about basic fluid behavior and it was fun. The speakers are the best and delivered the program very well. I will never forget the SPE-KSA energy program lesson and someday in the future I want to become a scientist that helps provide energy for people."

Qaisraa Shahraz, 5th grade student

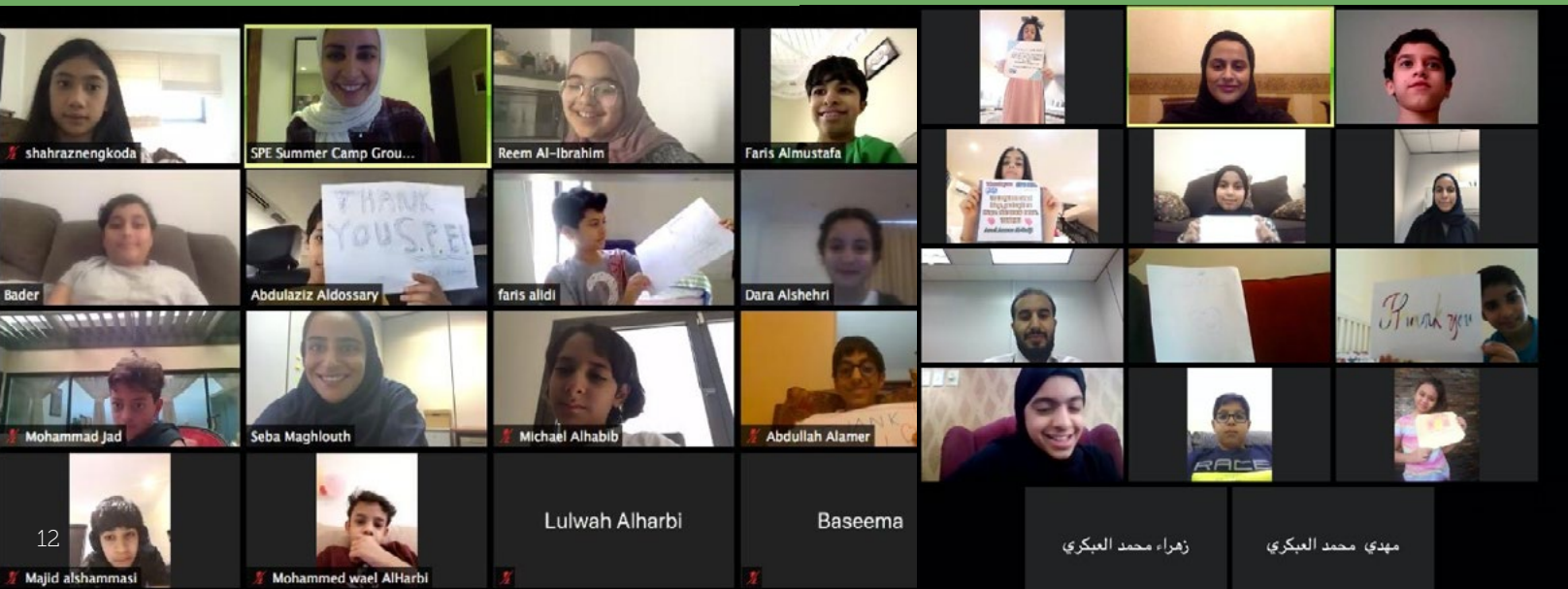


"I had so much fun in this summer camp. I got to learn that Saudi Arabia produces around 12 million barrels of oil every day. Also, I learned about different inventors in the energy sector, such as the inventor of the light bulb, Thomas Edison. And one of my favorite things we did was making fun experiments. It was a great experience because it was fun and in the same time interesting and educational."

Abdulaziz Aldossary, 6th grade student



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## LEAVE NO TRACE

Environmental Stewardship Workshop

August 25<sup>th</sup>, 2020

On August 25<sup>th</sup>, the T&SA team hosted the first physical event since the beginning of the pandemic. The workshop, "Leave No Trace", was held in Mercure Hotel following all safety and precautionary measures.

The workshop was delivered by coach Abdulaziz Alnemer, who is the owner and founder of SIRU Adventure Club and is a board member of the Saudi Climbing and Hiking Federation. Coach Abdulaziz discovered his passion for the outdoors while studying Consulting and Marketing at Arizona State University. He guides hiking adventures and teaches "Leave No Trace" Principles to members of the outdoor community. Abdulaziz has also worked as a trail builder in the Jefferson Wilderness Area and volunteered as a children's teacher about the environment in Zion National Park.

30 participants from different nationalities and age groups attended the workshop. The objective of the workshop was to raise awareness on how to preserve the environment by being both an adventurer and a steward to the land all the while enjoying its beauty. The workshop covered vital knowledge for every individual who wants to experience living in the wilderness. Several aspects were covered, including preparing with the required gear, planning and most importantly mental preparation. Especially with the boom in local tourists, encouraging such practice is essential and preserving the allure of Saudi Arabia is now the responsibility of every tourist and resident in the Kingdom.

**Event Lead:** Alaa Als Salman

**Written By:** Arwa AlHilal



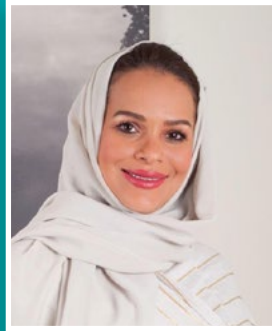
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# DRILL A NEW WELL

T&SA Webinar



**NUHA YONUS**

Certified Practitioner Coach,  
Consultant and Advisor,  
Human Capital Management

July 7<sup>th</sup>, 2020

Nowadays, the most common advice we hear is on how to protect ourselves from COVID-19: Put on our masks, follow proper hand hygiene, maintain proper social distancing and the list goes on. There is no doubt that we should all continue to follow these essential measures that will protect us, our loved ones and everyone around us.

In its very first webinar, T&SA shed light on another kind of protection that is equally as important. It is the protection of one's inner self, mind and emotions against all unexpected changes or hardships that one has had or may continue to have as a result of dealing with this pandemic.

The webinar was delivered by Coach Nuha Yonus, who has more than 18 years of experience in distinct domains that gave her the chance to build up her skills and knowledge. Her career in Human Resources (HR) began in Recruitment and Employee Relations. This experience taught her the value of human capital for any organization and helped her learn the significance of building relationships with people. As a result of this fruitful journey she had in HR, Nuha is now working as a Human Capital Management (HCM) Consultant and Advisor. Additionally, Nuha has 4 years of experience as a Certified Practitioner Coach.

Four main topics were covered in the webinar: Relationships, Uncertainty, Emotional Awareness and Mental Wellbeing. Each topic was covered in relevance to COVID-19 and the experiences undergone by different people as they deal with it. The webinar was very well-received with excellent interactions and participation from the audience.

The webinar was concluded with this food for thought: If you are peaceful and equanimous with yourself, it will reflect on everyone and everything around you and will allow you to use this pandemic experience as an opportunity for growth.

To watch this webinar, scan the QR code below:



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**Event Lead:** Arwa AlHilal

**Written By:** Arwa AlHilal

## Me & Myself

- Acceptance
- Be Kind to Yourself
- Let Go of Judgment
- Begin to Notice Your Internal Critic
- Avoid the "selfish trap."



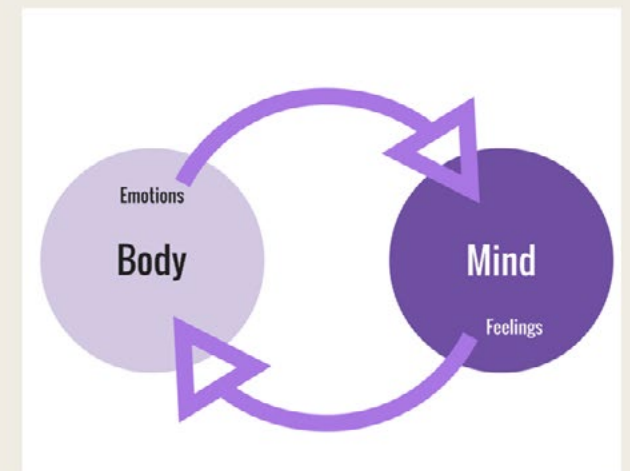
## Feelings VS Emotions

### ■ Emotions Are...

Emotions are physical, instinctive, observable (microfacial expressions, body posture, tone of voice, sweating, etc), and measurable (brain activity, blood flow, etc)

### ■ Feelings Are...

Feelings are the mental associations we make or how we interpret emotions. Feelings can't be measured (because they happen primarily in our minds), they're individual, and are often illogical or irrational.



## Living with the Uncertainty

- Replace expectations with plans
- Prepare for different possibilities.
- Become a feeling observer. ...
- Get confident about your coping and adapting skills. ...
- Focus on what you can control.





# SPE-KSA CELEBRATES THE KINGDOM'S NATIONAL DAY

T&SA 90th Saudi National Day Celebration

This year, the T&SA team celebrated National Day a little differently in order to accommodate our new way of living. In alignment with the COVID-19 precautionary measures, participants were broken into smaller teams to carry out various activities with other entities and groups under the theme of "Saudi National Day".

To view a compilation video of T&SA's National Day activities, scan the QR code below:



## HIKING

August 28<sup>th</sup> - 29<sup>th</sup>, 2020

Four T&SA teams participated in a trip to Jabel Ibrahim in Taif, which was individually-organized by a group of volunteers. The hike began on Friday, August 28<sup>th</sup>, and carried out by a local guide, "Abu Jassim," a former soldier in the Saudi army who graciously hosted participants in his farm. The hike to the camping site took around 2 hours and, upon arrival, the team took a short break then headed to the historical village of "Wed", the guide's place of residence until 1416H. Wed village is over 250 years old; however, only a few houses and a mosque remain. Visitors also had the chance to see how residents once lived and navigated their daily routines. On Saturday, the team headed back to the farm. From there, they took a tour around Taif, visiting Taif's famous Rose farms, where they enjoyed local hospitality and got some of their famous rose products before heading back home.

Written By: Nahed Aldossary



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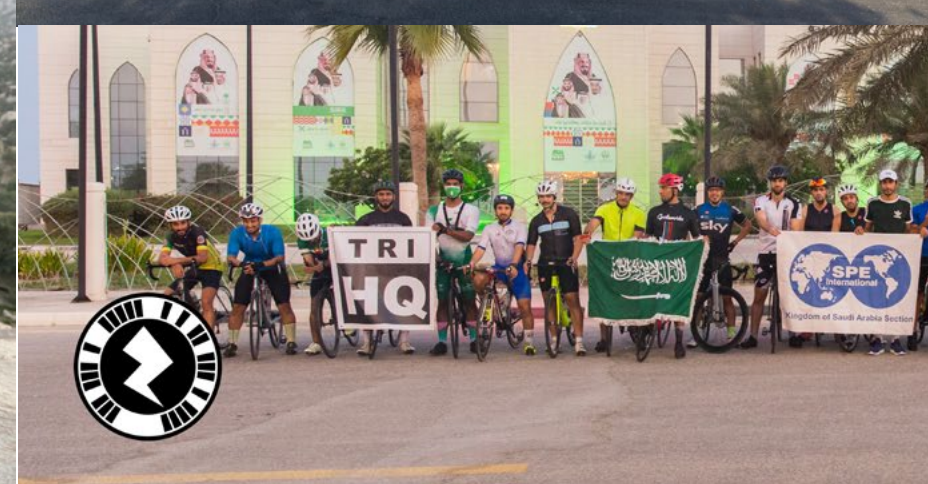
روحي وماملكت يداي فداه  
وطني الحبيب وهل أحب سواه

## CYCLING

September 5<sup>th</sup>, 2020

A cycling event was held in September in collaboration with the TRI HQ group. Before starting the ride, all participants were briefed on safety rules. The ride began at 4:00 PM and ended at sunset, a duration of around 3 hours. The journey began from Alaziziah district at a speed of 37km/h, crossing an overall distance of 90km with a 10-minute break halfway at Nakheel resorts.

Event Lead: Abdulaziz Alaqeel



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## JEEP WRANGLER DRIVE

September 12<sup>th</sup>, 2020

This activity was carried out in collaboration with 3 teams: Pro Jeepers, Khobar Wrangler, and Jeep Squad. The 50 participants were distributed across 34 cars and all safety measures were communicated before the start of the journey. The team used a two-way radio to communicate on road congestion status and support each other throughout the event. The ride lasted around 3 hours, starting at SACO station on Alahsa road, to Ghonan and finally back to the starting point.

**Event Lead:** Eman Ibarhim



## DIVING

September 12<sup>th</sup>, 2020

Members of the T&SA team participated in the diving activity organized by Saihat Divers. The total number of participants was 9, including Captain Hussain Abbas. The activity took place at Jana Beach at a depth of 16 meters.

**Event Lead:** Alaa Als Salman



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## HORSE RIDING

September 16<sup>th</sup>, 2020

On September 16th, 9 horsemen went on a journey. The 5 km ride was organized to celebrate the Saudi National Day displaying KSA and SPE flags.

**Event Lead:** Mohammed Al-Mishkhas



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# TEAM BUILDING CHALLENGE

September 11<sup>th</sup> - 12<sup>th</sup>, 2020

This activity was carried out over two days. 25 participants were grouped into 4 teams named after Saudi Arabia cities Jeddah, Makkah, Diriyah, and Khobar.

The teams participated in the following challenges and collected points in each, to end up with one winning team at the end of the event.

**Half marathon:** Participants were organized into teams and required to cover a distance of 21 KM, distributed among members and tracked using activity trackers, by sharing time stamps and their images. Points were awarded to teams who completed the half marathon. An additional point was awarded to the first team to complete the distance.

**Art Competition of Saudi Arabia's landmarks:** In collaboration with "The Shed", teams were required to complete a drawing that represents a famous Saudi landmark. Participation was capped to two people per day in compliance with social distancing measures. Points were awarded to each team who completed the work, and an additional point was given to the team with the best drawing.

**Scavenger Hunt:** Organizers shared with the participating teams a list of 20 Cafés in the Eastern Province, 10 in Khobar, and 10 in Dammam and the rules of the scavenger hunt. Participants were given 2 hours to find the hidden objects, which were identified by the colour "green". Teams were then required to take a picture of the object with the Café in the background and share it with the organizers. A point was given to each team who finds all the hidden objects, and an additional point was awarded to the first team who completes the scavenger hunt.

**Environmental Stewardship:** To promote environmental stewardship, the T&SA team distributed a total of 200 cloth shopping bags to the general public. This is to promote an environmentally-conscious mentality of re-using bags. Each team distributed 50 bags, took pictures and earned one point for distributing all 50 bags.



**Event Lead:** Nada Aljuraib



# VOLUNTEERING WITH ITHRA



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September 23<sup>rd</sup> - 25<sup>th</sup>, 2020

The T&SA team supported the Ithra Saudi National Day celebration with a total of 15 volunteers to help in organizing various activities that were organized by Ithra. The volunteers offered full-time support for 3 days from 4:00pm until 11:00.

**Event Lead:** Nada Aljuraib



# NATIONAL DAY RUN



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September 26<sup>th</sup>, 2020

In collaboration with TRI HQ and Khobar Running Crew, the T&SA team sponsored a community run at AlFanan District (King Saud Road, behind IABF University). The run included 100 participants of different age groups. It was held over a distance of 10km in two 5km loops, allowing the participants to have the option of either going the full- track or half-track.

**Event Lead:** Munirah Aldarwish

**Written By:** Arwa AlHilal





# TRIATHLON

September 23<sup>rd</sup>, 2020

The triathlon was organized by several community sports groups in the region: TRI HQ group, KSA Triathlon Club, Wheels KSA, Eastern Triathletes, and Wings Cycling with T&SA as the Media Sponsor of the triathlon. The activity took place at Half Moon Beach, with cycling occupying over 1.5 hours of the total time. To accommodate different levels of cycling, the team was divided into 3 pelotons:

- Group A: 37+km/hr
- Group B: 33-35 km/hr
- Group C: 25-30 km/h

For safety, Groups A and B were led by 2 group leaders each, and Group C was led by 3 leaders. A safety car with an experienced driver accompanied each group and was used to transport riders who were unable to complete the full ride.

The cycling path took the riders along the Halfmoon Beach road for 45 minutes. They then headed back to the starting point to for the running portion of the triathlon. Running was carried out either individually or in groups, and runners completed a minimum of a 3 km loop or 30 minutes of running. The last activity was swimming for 30 minutes along the coastline. At the end of the swimming activity, refreshments were served, and prizes were awarded to the top 20 participants.

**Event Lead:** Mohammed Al-Mishkhas





# THE PATH FORWARD



## Applying Digitalization in a Changing Industry and Market Environment

As a leading wellbore and production solutions company, Weatherford delivers some of the most innovative technologies and offerings to operators all over the world. We are number one in drilling and production optimization and tubular running services, the only provider of all forms of artificial lift, and a leader in managed pressure drilling (MPD) for more than half a century.



**By: Jim Hollingsworth**  
Vice President, Saudi Arabia,  
Weatherford

Our mission is to accelerate the digital transformation of our customers by creating solutions that digitalize fields and automate operations for tangible performance gains. Our digitalization strategies use predictive and prescriptive algorithms that increase reliability and overall efficiency in every operation by eliminating the human components that cause errors. We can also more easily replicate success across operations and prevent the events that create nonproductive time with these algorithms.

Working with fewer personnel, managing from a distance, and reducing operational costs are just some of the advantages of our digital solutions. They can also help operators achieve their environmental and sustainability goals. Digitalization is critical to driving the efficiencies that directly impact every operator's bottom line—especially in a hyper-competitive market like the one we're in today.

## ENABLING DIGITAL TRANSFORMATION IN THE MIDDLE EAST

Nowhere have we helped to enable digital transformation more than in the Middle East. In 2019, we delivered a "Technology Day" explicitly tailored to the vision of the national oil company, Saudi Aramco, and others throughout the Middle East. We know that an important

goal of these operators is to cost-effectively meet their national vision while maintaining the safety of their employees. That's why our approach to digital transformation is rooted in upstream fundamentals and combined with the next-generation paradigm of Industry 4.0, including the Internet of Things (IoT), advanced data analytics, and Cloud computing. What sets Weatherford apart from other companies is that we apply digital transformation strategies to the entire asset—not just by well phase—with a combination of physics- and mechanics-based approaches to enable automation and autonomous control. The result is improved predictions of physics-based models, gains in efficiency, production, and cost savings, and reductions in emissions, risk, and uncertainty.

As one of Saudi Aramco's trusted business partners, we are also unlocking tremendous value in the Kingdom by deploying our revolutionary technology, which will save rig time and associated costs, while also maximizing production in one of the world's most challenging environments. We will also deliver our market-leading technologies, including cementation, completions, liners, solid expandables, and casing-exit solutions. And, for 11 years and counting, Weatherford MPD has provided high-quality services that enable Saudi Aramco to achieve its goals both in drilling and in the overall asset. To date, our MPD technology has helped save more than \$100 million in-Kingdom—and we're just getting started.

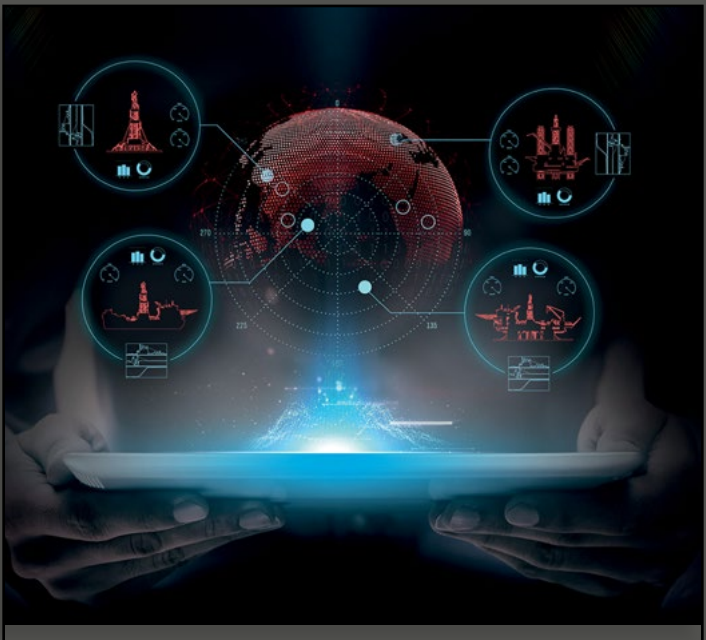
## ACCELERATING THE DIGITAL TRANSFORMATION DURING A PANDEMIC AND BEYOND

The COVID-19 pandemic showed that we needed to be flexible in the way we operate, which has accelerated the use of digitalized technology across the industry. Not only that, but every operator has their own goals for environmental security and sustainability, including achieving net-zero carbon emissions. Digital solutions are the key to achieving those goals, and Weatherford is leading the oilfield services industry in digitalized and automated technologies that produce the same outcomes as conventional operations while being safer, more efficient, and less costly in the long term.

What we know now is that while COVID-19 was a shock to our system, it also created an opportunity for us to continue advancing as an industry to serve energy to the world. During a time in our industry's history where many operators had to make the tough decisions to shut down their rigs, we helped operators in the Middle East and beyond keep their operations running—and with tremendous success.

In Saudi Arabia, we saved 18 days of rig time and achieved an unprecedented rate of penetration (ROP) of 26 ft/hr (8 m/hr) in tight-gas reservoirs with our unmatched MPD solutions. Later this year, we will deploy our Victus® intelligent MPD system in-Kingdom to deliver additional value to the region. The world-first system eliminates drilling hazards because it detects, controls, and circulates out influxes using a time-tested algorithmic model calibrated with decades of data in thousands of wells worldwide. The intelligent MPD system also reduces well construction costs by enabling a faster ROP, reducing drilling fluid expenses, eliminating days of rig time, and optimizing the well architecture. These benefits add up to significant savings.

We also consistently work to ensure that every operation runs smoothly from one central location. The Weatherford Dhahran Techno Valley Data Center monitors drilling operations with Centro™ digital well delivery by employing four critical stages that help to mitigate risks, improve efficiency, and establish best practices. First, we develop smart alarms to prevent operational hazards caused by unexpected changes downhole. Then, using the data, we provide suggestions on hydraulics, torque and drag, and directional drilling so that we can improve the drilling performance of the well while also assessing risk. Next, we can propose significant changes to the well design, including the need for sidetracks, fishing, high-pressure analyses, lost circulation, and casing point correlations. These changes mitigate risk. Finally, we optimize the well program by adjusting the drilling performance. What these four stages provide is holistic, real-time insights that improve efficiency and bolster the customer's bottom line.



*Centro™ is Weatherford's digital well construction optimization platform. Capable of assimilating data from multiple rigs and multiple sources, Centro integrates every element of an operator's well data from any global location, enabling advanced domain viewing and live analytics. It is a benchmark in the industry's digital transformation journey.*





*Production 4.0 solutions deliver the ultimate in control, data management, and advanced data analytics*

and strategies increase success and safety, minimize risk, and maximize reward. Not only do they allow us to reduce drilling time and increase flexibility, but we can also reduce people on board and personnel required in the red zone. What we're doing all over the world is accelerating digital transformation by creating solutions that digitalize fields and automate operations for tangible performance gains.

## PREDICTIVE AND PRESCRIPTIVE ALGORITHMS

Many operations are planned and executed to maintain safety while trying to achieve the lowest cost per foot possible. However, if a well is delivered with low quality, the impact of focusing on these achievements alone will have adverse effects on well economics and total production.

Our vision is to develop intelligent systems across every phase of the well life cycle. The core of such capabilities is a multi-domain software engine that integrates physics-based models with predictive analytics and artificial intelligence to optimize decision-making processes and minimize human error. We've already done this in managed pressure drilling (MPD), tubular running services, re-entry services, and production. We are currently developing more capabilities to predict and prevent downhole events, such as stuck pipe.

We marry our predictive algorithms with prescriptive models to determine likely possibilities and recommend actions in each operation or across an entire field. These models use data to recognize patterns that analysis by humans can sometimes miss. Their benefit is clear when it comes to efficiency and risk mitigation.

Although these algorithms make our technology robust and reliable, what they ultimately enable is better decision-making by the specialists and experts using them. What we're giving customers are better, more comprehensive tools that provide deeper analysis at ultra-high speeds. It is this harmony of computer and human knowledge working together that makes Weatherford solutions unmatched.

In other parts of the Middle East, we enabled continued operations without sending a single person to the customer's rig. In one operation, we remotely deployed whipstocks to achieve single-trip casing exits. In another, we used our Revolution® rotary steerable system and HyperLine® drilling motor to save five days of rig time per well while reducing nonproductive time by 51 percent compared to the nearest competitor. And, our AccuView® real-time remote support system enabled Weatherford liner-running experts in Houston and Abu Dhabi to manage the installation of a close-tolerance liner system with around-the-clock remote support. The support system improves well-construction performance through real-time analytics and global collaboration and with repeatable precision—anywhere, any time.

Although we've enabled continued success for our customers in the Middle East, we have also done the same in operations all over the world. As one example, we recently installed a liner system remotely for a major operator in Russia. Without fail, we've helped our customers succeed again and again. And, we have no intention of stopping.

What these operations show is that the future and success of Industry 4.0 is only possible through digitalization and artificial intelligence algorithms. These concepts

## A HOLISTIC APPROACH

Weatherford is best suited to handle the shifts in our industry because our portfolio makes being flexible to changes easy. From drilling through production, and in every environment imaginable—including unconventional shale, mature fields, and deepwater operations—we have industry-leading solutions to get the job done right every time.

Rather than prescribing a one-size-fits-all approach with limited technology or offerings, Weatherford holistically evaluates our customers' assets. That means that rather than only considering one phase of the well life cycle, we integrate solutions that enable our customers to reach total depth quickly and allow production to start sooner—and produce more for longer. Our industry-leading position across the well life cycle makes this approach possible and successful.

We first drill a congruent, smooth hole because this is the foundation for tubular running, completions, and production. For decades, the oil and gas industry has demanded a holistic approach to managing complex wellsite operations digitally. Centro™ digital well delivery answers that challenge, and Saudi Aramco was a crucial part of its development phase to seamlessly integrate every element of the operator's well data, allowing team members from any location to access, share, and store all vital project information at any time. Centro makes consolidated data available in real time, enabling advanced domain viewing and live analytics.



*With asset-level power at your fingertips, prioritize operational problems and opportunities with economic analyses*



*Innovation and collaboration will play vital roles in the transformation of the oilfield*

We then leverage our leading position in tubular running to finish constructing the well with Vero® automated connection integrity, the industry's only system that autonomously makes up connections and then uses artificial intelligence to verify the connection integrity with 100% accuracy. During the well construction phase, we have single-trip solutions that make sidetracks fast and easy, such as the AlphaST® single-trip openhole cement and sidetrack system. In the cased hole, we pair our world-renowned QuickCut™ casing-exit system with AccuView™ technology to enable single-trip success every time—even remotely. Finally, we not only get production online quickly, but we have the capabilities to make the asset produce more for longer with our ForeSite® production optimization software and accompanying offerings. And, we can optimize production field-wide while avoiding steep decline curves so that the well can produce consistently into the future.

Our offerings also answer the call for Earth-friendly solutions. We help operators meet their sustainability goals with cleaner and greener solutions that present innovative alternatives to traditional upstream processes and technologies. In drilling, we have water-based mud, which reduces environmental impact while providing the necessary drilling fluid properties for maximum performance. The Weatherford Rotaflex® pumping unit uses 40 percent less energy for high-flow production applications compared to electric submersible pumps.



Vero automated connection integrity and COMPLETE post-TD optimized solutions reduce crew size and the associated logistics during casing and completion running. We have stimulation fluid systems that minimize environmental impact using technologies and food-grade ingredients while boosting safety, effectiveness, and efficiency. And, our mature field solutions reduce the need for new drilling by maximizing existing asset life through next-generation optimization and autonomous well management. Not only that, but Weatherford production optimization solutions reduce vehicle emissions by letting operators remotely and autonomously manage the producing field and proactively dispatch crews only when maintenance is needed.

No matter where our customers operate, we know that the costlier the application, the higher value the solution we provide needs to be. And we provide that value by advancing our customers' digital transformations. In the current market, the most significant investment operators are making is in optimizing their current production. Weatherford boosts productivity by quickly generating cash flow and systemically accelerating the performance of aging wells. In unconventional shale environments, our customers need what only Weatherford can deliver: efficient construction, efficient stimulation, production optimization, and accurate evaluation. And, when the offshore market recovers, we can maximize returns by reducing operational costs, increasing reservoir recovery, and managing risk exposure.



## WEATHERFORD AND SAUDI ARABIA'S VISION 2030

No matter what operation we're undertaking, our customer's goals are ours. One way we commit to and promote the goals of Saudi Arabia is by supporting the Vision 2030 initiatives to build a vibrant society, a thriving economy, and an ambitious nation. A key component to achieving the vision is the in-Kingdom Total Value Add (IKTVA) program. The program seeks to strengthen the skills of its nationals so that they can contribute to the higher goals of the Kingdom.

We've known that localization is important, but the COVID-19 pandemic reminded the industry why it matters. With restrictions on imports and travel, the local content of a country becomes even more necessary. We've supported IKTVA during our long service in Saudi Arabia, and the pandemic helped us to fully realize the return of our time investment in the program.

As part of IKTVA, we hire, train, and develop Saudi talent, maintain local content, research and development, and suppliers. Working with Saudi Aramco, we strive to produce long-term, tangible benefits, including meaningful employment for an increasing Saudi population, digitalization and modernization of our industry, and increased global competitiveness for the Kingdom. We make that same commitment to the broader Middle East as well.

Another goal and project we support is Saudi Arabia's King Salman Energy Park—or SPARK—which incentivizes investment in the Kingdom, a closer supply chain to Saudi Aramco, and localizes the economy. When complete in 2021, it will be a hub for energy, industrialization, and technology that will serve to advance the industry. Saudi Aramco is at the heart of SPARK's development, helping bring businesses together to drive efficiencies and promote technological development, manufacturing, and exports, as well as build a world-class energy supply chain.

SPARK's role in enabling localization within the Kingdom's energy supply chain aligns with the strategic goals of the IKTVA program. We believe that our solutions and commitment to Industry 4.0 can help Saudi Aramco achieve their goals in Saudi Arabia and enable our customers to achieve successful operational outcomes around the world.

## LOOKING AHEAD

Changes in our industry and the market are inevitable. The supply and demand imbalance is ever-present and is a challenge we will always seek to overcome—and the COVID-19 pandemic exacerbated that challenge. The obstacles will never go away. What has and will remain constant is the Weatherford culture of innovation that spurs advancements in technology to overcome every obstacle, whether there is a global pandemic or not.

No matter what, Weatherford helps customers remain operational despite what's happening in the world. Across the globe—from Midland to the Middle East—we make doing more with less a reality through our digitalized and automated solutions, so that no matter what the next obstacle is, we can deliver successful operational and economic outcomes.



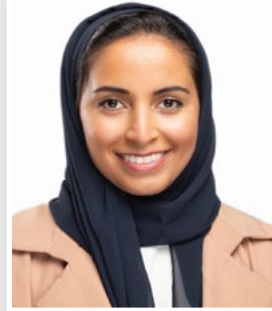
*Plan ahead for virtually any scenario by developing a back-up plan with what-if scenarios for any production situation*



scan to share



**By: Dr. Yara Alzahid**  
Petroleum Scientist, EXPEC Advanced  
Research Center,  
Saudi Aramco



## THE IMPORTANCE OF PORE-SCALE IN PRODUCING HYDROCARBONS

To meet the constantly increasing demand for energy, efficient extraction of hydrocarbons from unconventional reservoirs and enhanced recovery from conventional reservoirs are required. This involves a thorough understanding of the interfacial and transport phenomena involved in the recovery process. Conventionally, core-flooding systems are used to establish the wettability, capillary pressure data, relative permeability curves, and oil recovery for a given reservoir rock sample. This system was first introduced in the early 1930s. A generic core-flooding system has four components: upstream system (fluid(s) injected), a core holder, downstream system (fraction collectors and/or separators), and a data acquisition system. From core-flooding experiments, the effectiveness of a liquid or gas agent(s) is assessed by its ability to recover oil, as measured from the outlet port. Figure 1 shows a schematic of a core-flooding system components. Conclusions from core-flooding experiments are based on measured pressure within the core, and the inferred oil recovery is based on the effluent obtained at the outlet. However, these do not permit visualizing the rock inside the core holder, which would be needed to characterize the flow behavior and recovery mechanisms. Visualizing the flow is important to understand the fundamental recovery process and assess a specific flood.



Figure 1. illustrates a generic core-flooding system consisting of a core holder inside an oven, with several pressure transducers and gauges, along with several pumps and a system to control and collect the pressure measurements.

To fully understand fluid flow in hydrocarbon-bearing reservoirs and develop efficient recovery mechanisms, it is essential to understand the pore-scale ( $10^{-3}$ – $10^{-6}$ m), as it is where the fluid is being transported. Figure 2 highlights the different scales that we consider in oil and gas research.

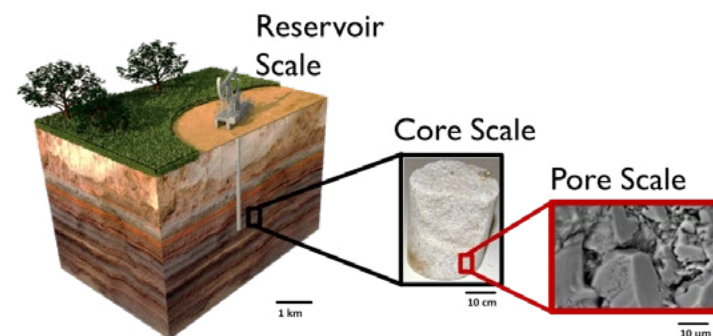


Figure 2. Reservoir, core and pore scale.

The interfacial behavior and transport of multiphase flow (oil, water and gas) at the pore-scale can largely affect the oil and gas recovery process, but are not well-understood.

Pore-scale studies can characterize rock/fluid and fluid/fluid interactions, fluid/fluid displacement mechanisms, and the dynamics of oil recovery during a waterflooding process or an enhanced oil recovery (EOR) mechanism. Pore-scale imaging and modelling, otherwise known as digital core analysis, is becoming a routine service in the oil and gas industry.

Development in 3D imaging techniques, such as lab-based X-ray micro-computed tomography ( $\mu$ -CT), has been essential for understanding rock physics. This approach is a non-destructive technique that images a 3D model of a representative volume of rock at resolutions down to  $\sim 1.0 \mu\text{m}$ . To generate a high-resolution image, the cores are normally a few mm across, constraining resolution to a few microns; sub-micron resolution is possible using specially designed instruments and smaller samples. Once an X-3D image of a rock is obtained, the image is processed and segmented into grain and different fluid phases. Details such as: saturation, cluster size distribution, interfacial curvature, wettability, oil recovery and lastly, petrophysical data such as porosity and permeability can be obtained. Because  $\mu$ -CT is normally used to image rocks before and after injection of a specific gas or liquid phase, providing a static fluid distribution, it does not capture the dynamics of transport mechanisms. However, this limitation is overcome by synchrotron-based CT, whose images can be 3 to 5 orders of magnitude brighter than those from lab-based  $\mu$ -CT. Fast dynamic imaging by synchrotron-based CT is due to high photon X-ray flux, high efficiency of the scintillator, and a fast-frame-rate imaging detector.

Other than X-ray imaging, focused ion beams-scanning electron microscopy (FIB-SEM) is another technology that acquires high resolution 3D images of small rock samples (a few  $\mu\text{m}$  across). The ion beam makes very fine slices through the sample, enabling sequential SEM images to be obtained. However, this method is destructive but can reveal details of small pore spaces, such as mineralogy, porosity and permeability. Lastly, optical microscopy methods, such as confocal microscopy can also produce 3D images of thin rock sections. It focuses on a series of planes through the sample and a 3D image is obtained.

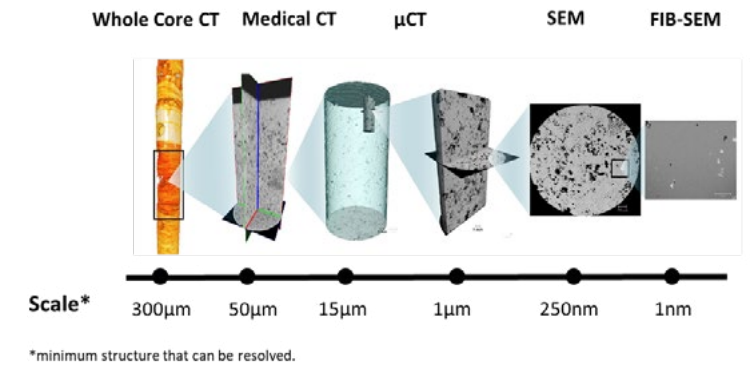


Figure 3. The different imaging scales obtained from various imaging tools

Figure 3 highlights the results obtained from different CT scanners (medical and micro-CT), SEM and FIB-SEM.

These imaging tools can accurately characterize rock/fluid and fluid/fluid interaction, which helps in reservoir characterization and simulation and, therefore, improves existing recovery methods to achieve maximum recovery factors. However, to do this, upscaling from micro-scale to field scale still possesses a huge barrier. Upscaling is considered a large research field on its own that researchers and industry are still trying to tackle.

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## SUCCESS BEGINS WITH SAUDI



**By: Malik Al-Arafat**  
Saudi Aramco

Everyone sets goals, whether they sit down and purposefully plan them or by merely making a mental note. However, the path to achieving those goals is often unclear. The acronym SAUDI will help you clarify the path to, not only achieve your goals, but to also exceed them exceptionally. The 20/80 rule (Pareto principle) teaches us that small details heavily influence overall results. In other words, it is the minor and what we deem as trivial details that are more likely to help us achieve better results. There is never a single path to reach all goals in life; however, there are practices that over time have proven their ability to lead to superb results. We can use the acronym SAUDI to illustrate five helpful practices that support achieving results.

Set clear goals. Develop smart goals before producing an action plan. Moving toward goals that are specific, measurable, achievable (attainable), realistic (relevant), and time-bound increases the possibility of success. Identifying what we intend to achieve and drawing roadmaps with measurable goals make tracking progress easier, and ensure the effectiveness and efficiency of our execution. It is necessary to look carefully at decisions that will help us achieve tasks through a process that determines whether a desired goal is attainable and whether there would be constraints. In addition, we'd want our goals to be pertinent to our overriding ambitions. Business and individualistic goals can change over time - what is important today might not be tomorrow. Yet, open-ended goals cannot be measured well, so defined timelines are essential to goal setting.

Accept challenges. Accomplishments are daring when they are hard. Yet it makes no sense to judge the difficulty of goals without trial and effort. Considering our capabilities is very essential, yet it should not justify withdrawing from a challenge early. Think of challenges as incentives that motivate us to pursue goals. Challenges give us the opportunity to understand ourselves—what we excel at and what we need to develop. How persistent, resilient, or agile are we?

There is risk associated with challenge, yet there are always acceptable levels of risk. If success is what we want, we must understand that failures come with it as valued lessons along the way. Achievement, discoveries, and innovation occur only after many unsuccessful attempts. Those looking from the sidelines only see and comment at what may appear to be a "desperate effort". However, the concept of "success" is awash with stories of those once thought to be desperate. We must believe in ourselves, accept challenges and never withdraw at the first sign of failure.

Use available resources. Considering available, accessible resources is a key success factor. Our talent and capabilities are the primary resources to achieve our goals. Resources do not have to be limited to financial support or current education. Research, including discussions with experienced family members, friends, and colleagues can help us develop deep knowledge and skill.

Professionals from different disciplines help us broaden our horizons and leaders and mentors help us sort through issues and realize potential solutions. In other words, a resource can be anything that adds to our potential for achieving our desired goals.

Develop higher results. Consider all attempts to achieve continuously better results and always look for areas of improvement. This concept is best defined by the phrase "raise the bar". Dare to produce more at work, break more sports records, increase savings or reduce expenses, or improve eating habits. We must challenge ourselves to achieve results that we never thought possible. Quality, effectiveness, and efficiency are areas to consider in our professional and personal lives.

Incorporate your goals with others. No doubt, collaborating with others helps motivate us and take us closer to our goals. Find where your personal goals may complement the goals of others and use knowledge and innovation from both ends. This could help save time, effort, and resources needed to attain better results. In addition, we must measure our goals with those of our families, friends, colleagues, communities, and environment. It is easier to achieve if we align our personal goals with our social obligations. The protest of those affected by our ambitions, no doubt, influences our ability to achieve.

Therefore, if small details can heavily influence overall results and exceptional results are the product of the optimal use of resources and opportunities, I suggest applying practices that, over time, have proven their ability to facilitate superb results. A way of thinking, organizing, and functioning to best use our energies to achieve tremendous successes is the aim of SAUDI.

**S**ET CLEAR GOALS

**A**CEPT CHALLENGES

**U**SE AVAILABLE RESOURCES

**D**EVELOP HIGHER RESULTS

**I**NCORPORATE YOUR GOAL  
WITH OTHERS





## A collaboration between:

# A PETROLEUM ENGINEER'S GUIDE TO MAKING THE PERFECT ESPRESSO



**Reem Alsadoun,**  
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**Dr. Yara Alzahid,**  
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a shorter extraction and brew times and leading to the sour taste profile. In a grind that is too fine, the opposite is true: water takes a long time to flow through tight pores, resulting in the over-extraction of the grains, causing it to taste too bitter (as seen in figure 2). The grain size needs to be fine enough to allow sufficient extraction to take place, but not so fine that it compromises the flavor. As every barista knows, the magic number is 25-30 seconds for extraction, creating that sweet and ripe yet pleasantly acidic flavor. Similarly, in a hydrocarbon reservoir, the grain size dictates the ability of a fluid to flow through the porous rocks. This phenomenon is known as permeability, and the porous space between grains is also known as porosity. In a reservoir, the hydrocarbon is trapped in that porous and permeable space, whereas in an espresso shot, the flavor comes from the flow of water through the porous grains of the coffee grounds.

### A Petroleum Engineer's Guide to Making the Perfect Espresso

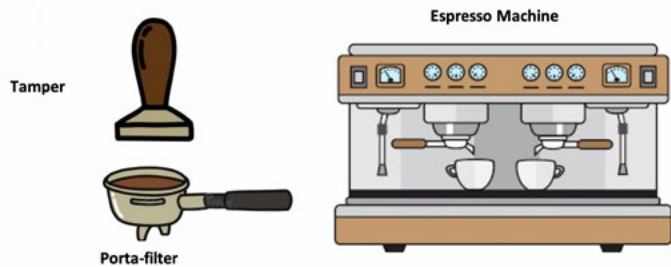


Figure 1: The figure above shows some of the main components used in espresso making. The tamper is used to level the grind in the portafilter before being inserted into the espresso machine.

Once the coffee is ground to the suitable size and inserted into the portafilter, approximately 30 lbs. of pressure is

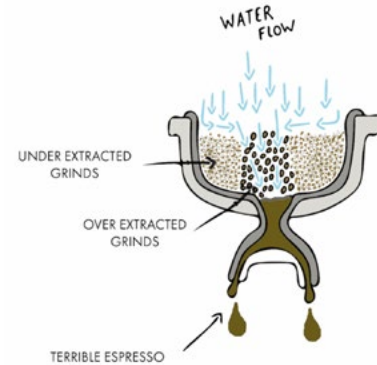


Figure 2: The figure above illustrates the flow of water in the portafilter when it is inserted in the espresso basket.

applied to compress the ground coffee using a tamper. Tamping the grounds achieves an even distribution of the coffee grounds, which are then inserted into the filter basket of the espresso machine for further compression. As the hot water moves through the compacted grounds, it travels through the permeable and porous space, seeking the path of least resistance. By tamping the coffee, baristas ensure that the pore spaces between the coffee grounds are evenly distributed, allowing the water to travel evenly throughout, maximizing the amount of coffee and coffee oils extracted, and ultimately creating that desired rich flavor and the delicious golden crema that appears on the surface. Much in the same way, hydrocarbons are extracted from the reservoir in conventional petroleum systems, and just like the coffee grounds, it is often characterized by the presence of porous space where hydrocarbons are found. Depending on the pore size distribution, the roundness, and the sorting of grains, the amount of hydrocarbon extracted varies. For instance, uneven size distribution, as well as irregularly shaped or poorly sorted grains, result in lower extraction, and vice versa. Likewise in coffee, these characteristics can result in lackluster or overly acidic coffee.

**"Essentially, what occurs in an espresso machine in 30 seconds occurs in a petroleum system over hundreds of millions of years."**

After you have achieved a suitably fine grain size and an even distribution after tamping, the ground coffee should be in the form of a dense and uniform puck that the water will flow through. The process of extraction

then occurs when the ground coffee mixes with hot water partially, saturating the coffee grounds and creating the espresso, which consists of caffeine, acids, fats, sugars, and carbohydrates. The water, of course, cannot flow alone: it requires nine bars of pressure to push it through the tight porous space in the coffee grounds. Espresso machines have built-in pumps that allow them to achieve the desired pressure to aid the flow of water. However, if the pressure falls above or below the nine bars, it directly influences the water flow rate, thus impacting the quality of the extraction (causing it to be over- or under-extracted) and, ultimately, the quality of the espresso. In a petroleum system, the hydrocarbons are generated over millions of years when organic matter is deposited and subjected to high heat and pressure. Just as the espresso precipitates from the coffee grounds, the hydrocarbon is expelled from the source rock only when the pressure is high enough to force it out of the rock. The pressure also allows it to be carried further into the porous and permeable reservoir rock, as illustrated in figure 3. Essentially, what occurs in an espresso machine in 30 seconds occurs in a petroleum system over hundreds of millions of years.

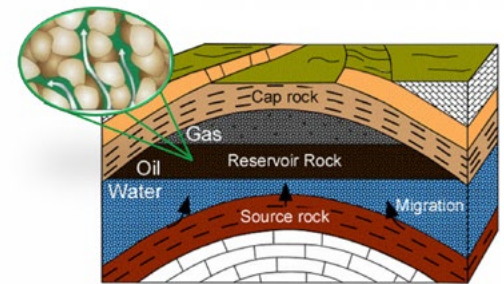


Figure 3: The figure above depicts the elements of a petroleum system.

Both hydrocarbons and coffee are among the world's most traded commodities, which is no surprise considering they all respond to our fundamental need for energy in different forms: powering our homes and minds. The perfect espresso is a function of the grain size, shape, sorting, uniformness, and the pressure applied. If your coffee is too sour or too bitter, it is worth examining one of these parameters. Alternatively, you could think about compressing the process that occurs over millions of years in a petroleum system to the 30 seconds required to get that perfect shot of espresso.





# Breast Cancer: What You Need to Know

By: JHAH Oncology Institute



Cancer is developed when cells begin to grow out of control, and breast cancer specifically is a type of cancer that starts in the breast. Breast cancer cells usually form a tumor that can often be seen on an X-ray (Mammogram) or felt as a physical lump. Although breast cancer is most often found in women, men can get breast cancer too. Furthermore, breast cancer is the most prevalent form of cancer diagnosed in women in Saudi Arabia.

## Signs & symptoms of breast cancer:

- A lump or swelling in the breast
- Redness or flaky skin in the breast
- Irritation or dimpling of breast skin

## How can I reduce my risk of breast cancer?

- **Maintain a healthy weight:** Being overweight or obese may increase your risk of breast cancer, especially after menopause, when most of women's estrogen comes from fat tissue. Higher fat tissues lead to higher estrogen levels, which can cause breast cancer.
- **Follow a healthy eating plan:** Aim for five servings of vegetables and two 2 of fruits daily. Look for lean protein sources, replace animal fats with polyunsaturated fats and avoid processed foods.

Vitamin D deficiency increases the risk of breast cancer; therefore, women should increase their consumption of low-fat or nonfat dairy products that are fortified with Vitamin D. Other food sources high in Vitamin D include egg yolk, salmon and fortified cereals. Direct exposure to sunlight for 15 minutes a day is encouraged to meet Vitamin D requirements;

however, exposure to sunlight through glass windows, clothes or sunblock does not help Vitamin D absorption. Limit the consumption of burned and charcoal-grilled foods. Limit the intake of canned or processed meat, sausages, pickled and smoked foods and that of sugar and refined carbohydrates such as sweets and sugary drinks. It is important to limit excessive intake of fats, such as animal fat, butter, ghee, fatty meat, full cream dairy products and fried foods. Steaming, baking or grilling foods is healthier than frying or charcoal grilling.

- **Exercise regularly:** Inactivity can increase your risk of cancer. Each week, aim for 150 minutes of moderate exercise (50% to 70% of your maximum heart rate), or 75 minutes of vigorous exercise (70% to 85% of your maximum heart rate).
- **Pregnancy:** Having children later in life or not at all may increase your risk of breast cancer. As estrogen levels are lower during pregnancy, women who have a full-term pregnancy before the age of 20 have a lower risk of breast cancer than those who have not had children or who give birth to their first child after age 35.
- **Breastfeeding:** Estrogen levels may remain lower while a woman is breastfeeding. Women who breastfeed have a lower risk of breast cancer than women who have had children but did not breastfeed.
- **Medications/Hormon Replacement:** Using hormone therapy after menopause can increase your risk of breast cancer. To avoid this, talk to your health care provider about non-hormonal options to treat menopausal symptoms.

- **Hormonal Contraceptives (Birth Control):** Some studies show a potential link between hormonal contraceptives and breast cancer. These are typically contraceptives that are estrogen-based. Speak with your physician about the side effects and risks associated with the use of hormonal contraceptives, and which ones (if any) are right for you.
- **Avoid smoking):** Smoking has been linked to many forms of cancer. Quitting smoking may help reduce your susceptibility to cancer.

## Breast Cancer Screening:

### Physical Exam

Every month, at least 10 days after your monthly period, you are encouraged to do your physical exam to check for any changes in your normal self. The "Breast Cancer Awareness Handbook" can help guide you on how to complete a physical self-exam.

### Frequent Close Observation

For women with increased risk of breast cancer who don't want to take medicines or have surgery, doctors recommend close observation. This approach includes:

- More frequent doctor visits (every 6 to 12 months) for breast exams and ongoing risk assessments
- Starting breast cancer screening with yearly mammograms at an earlier age
- Possibly adding another screening test, such as breast MRI

### What is a Mammogram?

Women who are 40 years or older are encouraged to do a yearly screening mammogram. This test is still the best test to detect any early abnormal changes within your breast. Mammograms are low-dose X-rays that can help detect breast cancer. Mammograms can often show abnormal areas in the breast. They can't prove that an abnormal area is cancer, but they can help health care providers decide whether or not more testing is needed.

### What is a Breast MRI (Magnetic Resonance Imaging)?

For some women with a high risk of breast cancer, a screening MRI is recommended along with a yearly mammogram. MRI is not recommended as a standalone screening test because it can miss some cancers that a mammogram would find.

### Know your body

Don't shy away from taking to the initiative to learn about your body so that you can recognize any abnormalities that may occur. Being able to recognize abnormalities instantly allows you to report and address any unusual changes such as lumps, areas of discoloration, and tenderness.

### Education

There is a lot of information on the internet about breast cancer, and it's important to realize that some of that information is misguided. Incorrect information or myths can mislead you in your knowledge about breast cancer and what can help you protect yourself from breast cancer.

Visit the [JHAH.com](https://www.jhah.com)'s "2020 Breast Cancer Awareness" page to find the [JHAH Breast Cancer Awareness Handbook](#).





Genetic Counselling & Testing

If there are reasons to think you might have inherited a gene change that increases your risk of breast cancer (such as having a strong family history of breast cancer, or a family member with a known gene mutation), you might want to talk to your doctor about genetic counseling to see if you should get tested.

What are some common myths about breast cancer?

- Underwire bras do not cause or increase the risk of breast cancer.
- Mammograms do not cause or increase the risk of breast cancer.
- Breast implants do not increase the risk of breast cancer. However, women with breast implants are placed at a higher risk category because mammograms can't be performed as easily on them.

Did you Know JHAH has a Breast Cancer Survivor Group?

JHAH has a breast cancer survivorship group. Due to COVID-19, physical meetings have been limited. However, virtual support groups will be made available. Please contact the Oncology Institute regarding upcoming survivorship meetings.

Follow-up care

Many women are relieved or excited to be finished with breast cancer treatment. But it can also be a time of worry, concern about the cancer coming back, or loss without seeing their cancer care team as often. To help prevent the potential for reoccurrence of breast cancer, it is important to maintain a healthy and active lifestyle, eat nutritiously, and maintain advised screening as recommended by your Oncology team.

JHAH is here for you:

The Oncology Institute at JHAH is dedicated to provide the most holistic treatment for your individualistic needs. Our Oncology team is here to meet your individual physical, emotional, and mental health needs. Our team consists of experienced Oncologists, Radiation Oncologists, Surgeons, Oncology Psycho-Social

Counselors, Social workers, Oncology Nurses & Oncology Nutritional support professionals.

For more information about breast cancer oncology services, visit **JHAH>care services> specialty care> oncology blood disorders> breast cancer.**



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**WE FIGHT CANCER TOGETHER**

**Breast cancer occurs in men and women.**

Scan the QR code for details and more information.



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أرامکو الطبي  
Johns Hopkins  
Aramco Healthcare

AUTHORS AROUND THE KINGDOM

To celebrate the Kingdom's National Day, SandRose brings you a selection of notable Saudi

authors who cultivated and enriched the Saudi culture through literature



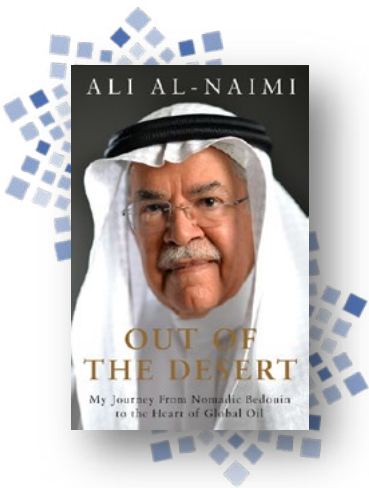
By: Nounf Alotaibi

OUT OF THE DESERT

Ali Al-Naimi

This is an extraordinary memoir of global oil's former central banker. Ali Al-Naimi is the former Saudi oil minister (a position he held for two decades) and one of the most prominent OPEC figures and powerful oilmen. This is the story of a man whose words moved markets.

Described as "the most powerful man you've never heard of", Al-Naimi's incredible journey proves that anyone can make it - even a poor Bedouin shepherd boy. This is his exclusive inside story of power, politics and oil.

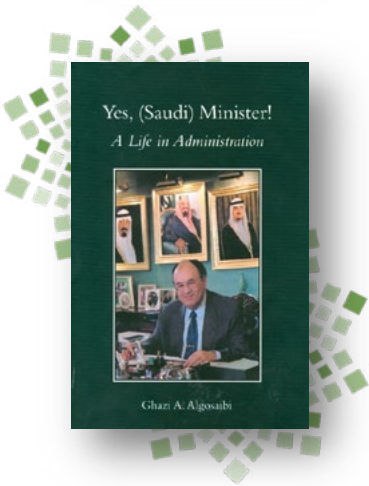


A LIFE IN ADMINISTRATION

Ghazi Algosaibi

Born into a leading merchant family in Saudi Arabia's Eastern Province, Algosaibi not only experienced but, as a government minister, played a leading part in the Kingdom's rapid modernization during the 1970s and 1980s.

AlGosaibi was a prominent role model who led four ministries with pragmatism and determination. Through this memoir, AlGosaibi recounts his career through an entertaining and inspiring style, and provides a series of profound insights into the relationship between the political leadership, the executive, and the administrative machine in Saudi Arabia.

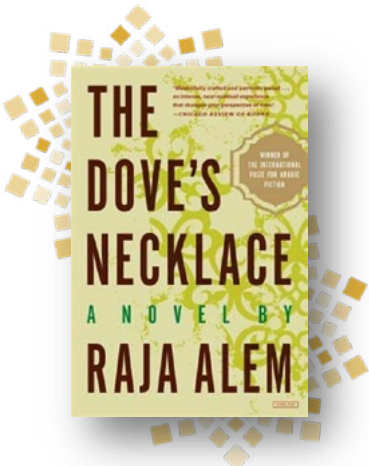


THE DOVE'S NECKLACE

Raja Alem

Raja Alem, the first woman to win the International Prize for Arabic Fiction, explores the "secret life" of the holy city of Mecca in her novel, "The Dove's Necklace". It presents a world of crime, corruption, and the exploitation of foreign workers by a mafia of building contractors bent on destroying the historic areas of the city.

Raja Alem's singular "The Dove's Necklace" is a virtuosic work of literature that deserves the world's attention.



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# OUR YOUNG WRITERS

## The Corona Virus



By: Jury Alghamdi

Every 10 years a severe virus is born. The last known virus was named Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2), and began and ended on November 2002 and July 2003, respectively. Over 8,000 people have been infected by this disease and 774 have died.

Eventually, people stopped getting SARS. But unfortunately the virus has grown stronger. The first ever case of the new Corona Virus was on December 1st, 2019, and was in Wuhan, Hubei China. Some people say that someone had contracted the virus by eating a bat, but we don't know that for sure. Faster than the speed of light, cases started spiking upwards in China. Nobody knew the cause of this dreadful thing and how to stop it.

COVID-19 is thought to be spread mainly through close distance from person to person. Some people without symptoms may help spread the virus without knowing it.

Everyone is told to stay 6 feet from each other, wear a mask and always wash their hands.

There are many ways to get the virus, like touching a surface or an object that has been touched by an infected person then touching the lips and nose and possibly even the eyes.

It's very rare for an animal to spread Covid to a human, there is also a small number of dogs and cats who have been reported of having the virus.

### The absolute way to protect yourself from getting COVID-19 is to:

- Maintain a social distance from other people.
- Wash your hands with soap and water, and if they aren't available at the time, hand sanitizer can also help keep you safe.
- Sanitize your household frequently.
- Always wear a mask.
- Don't touch your face without washing your hands first.

At first, the Corona Virus was only in China, and then people started traveling while not knowing they had the disease. Almost the whole city of Wuhan has had the Corona Virus by then; the streets were now empty from quarantine.

By March, the virus has become a global pandemic. Most countries have been quarantining everyone. The cases have become high and low with no pattern. There has been a scandal, some sick people would go out and touch and lick everything that others would touch daily such as: subway bars, elevator level buttons, door handles, and care handle as well. They would spit in people's faces too.

### Researchers found that the most common symptoms among people being hospitalized with COVID-19 include:

- Fever
- Fatigue
- A dry cough
- Loss of appetite
- Body aches
- Shortness of breath

### Symptoms usually begin 2-14 days after you've contracted the virus. Other symptoms may include:

- Sore throat
- Headache
- Chills, maybe even shaking
- Loss of taste or smell
- Runny nose
- Nausea or vomiting
- Diarrhea

If you have trouble breathing or constant pain or even bluish lips or face, immediately call the hospital. But If you have some mild symptoms, then you should get yourself tested.

Thank you for reading my essay that I have been working on for 4 hours .



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# SAUDI ARABIA THROUGH THE LENS OF Haya Alsamari

Instagram: [@mykindofridays](#)

As a child, Haya grew up very active, outdoorsy and curious, which undoubtedly helped shape her character, career and passion. She didn't have the opportunity to explore her love for sports and outdoors until she went to study abroad in California. She was out and about every Friday either surfing, running, diving or hiking.

Upon her return back to Saudi Arabia in 2015, she took her hobbies to a new level. She joined a running team in Aramco and started participating in races and marathons inside and outside the Kingdom. Her journey accelerated when she became a part-time guide in the mountains of Oman with Husaak Adventures. Her love for sports and nature took her around the world and that's how she fell in love with travel and exploration.

One thing led to another and she finally started hosting her own travel show 'Wain Alheen' with two other Saudi female travelers on MBC1. This gave Haya the opportunity to, on one hand, empower Arab women and, on another hand, share her love for adventures and travel with millions of people every week in a different country. Through over two years with 'Wain Alheen', she ended up traveling to and diving into the cultures of more than 20 countries in what must have been the most character-building experience of her life.

'Wain Alheen' became a huge hit, and after two successful seasons, Saudi Arabia's domestic travel scene really began taking off as restrictions eased and the Kingdom's hidden jewels came to life. This naturally took her down a new path to get to know a new side of her own country, a side she never really knew growing up. In a short amount of time, she's been covering a lot of ground, and recently went on a trip along the North-Western Coast of the Peninsula, snorkeling and scuba diving in absolutely breathtaking spots. "Finally... I can enjoy what I love doing most in my

own country!", she remarked upon completing her trip. Haya is already planning her next adventure as we speak. She is guiding a trip to the North of Saudi Arabia to celebrate the Kingdom's National day by hiking, diving and exploring Saudi Arabia.

If one thing's for sure, her journey is only beginning, and we're really excited to see how it continues to unfold. To her, it's more than just about having epic adventures, but about inspiring others to leave their comfort zones and learn more about themselves. Make sure you follow her next adventure on [@mykindofridays](#).



Yanbu Al Bahar, Saudi Arabia



Haql, Tabuk Province, Saudi Arabia



AlUla, Saudi Arabia



AlUla, Saudi Arabia



Haql, Tabuk Province, Saudi Arabia



Yanbu Al Bahar, Saudi Arabia



Yanbu Al Bahar, Saudi Arabia



Yanbu Al Bahar, Saudi Arabia



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