

# the arabian sun

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a weekly Saudi Aramco publication for employees



## prosperity continues to flow

Eighty years ago, King 'Abd al-'Aziz Al-Sa'ud turned the valves to allow oil to flow on the tanker D.G Scofield, setting in motion a new era of prosperity for Saudi Arabia that continues today.  
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## Supply Chain Control Tower a transformative initiative



see page 5

From left, the Supply Chain (SC) Control Tower Team of information security analyst Mohammed Zarea, SC Control Tower leader Rami Amri, and business system analyst Abdulelah Sufyani conduct a live business analysis using the rich analytics provided by the SC Control Tower. The SC Control Tower is an integral part of the Fourth Industrial Revolution Digital Transformation Center, where disruptive technologies and advanced analytics are leveraged to transform Saudi Aramco's supply chain toward digitalized operations and provide end-to-end value chain visibility.

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### CEO shares highlights of London Board of Directors meeting

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### Ready & Able strives for inclusion

Recognizing the importance of a diverse workplace, Saudi Aramco's Women Development and Diversity Division conducts "Ready & Able: Introduction to People with Disability Inclusion."  
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### powering remote wells in Kingdom's North



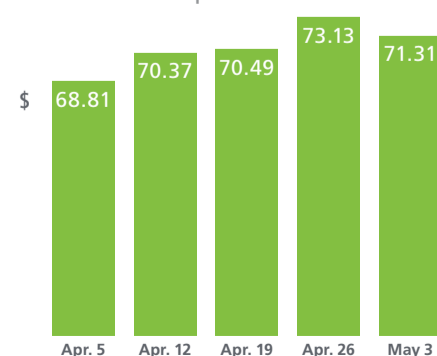
For the first time ever, Saudi Aramco is using an off-grid hybrid photovoltaic solar power system to power remote gas wells in the Kingdom's North, and the results are impressive — both environmentally and in terms of efficiency.  
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## Ithra earns kudos at Transform MENA Awards

The King Abdulaziz Center for World Culture (Ithra) earns three awards for its peerless programming, including a gold for "Best Use of Audio Branding," a silver for "Best Visual Identity from the Education Sector," and a Bronze for "Best Creative Strategy" with Tanween.  
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## OPEC basket five-week price trend 2019



## Saudi Aramco by the numbers

more than **1,200**

students throughout the Kingdom have graduated from STEMania — Saudi Aramco's award-winning program that introduces science, technology, engineering, and math to girls 7 to 15.

# CEO gives highlights of Saudi Aramco Board of Directors meeting in London

by The Arabian Sun staff

Saudi Aramco president and CEO Amin Nasser provided key highlights of the Saudi Aramco Board of Directors and its committee meetings held last week in London during his weekly call with management Sunday.

On May 2, the Audit Committee reviewed and endorsed the company's First Quarter Consolidated Interim Financial Report for 2019. The committee reviewed the 2018 investment performance of Saudi Aramco benefit plans and then approved an amendment to the company's Investment Policy Statement for one of the benefit plans.

## committee updates

The Risk and Health, Safety, and Environment (HSE) Committee also met and received an update on the company's Enterprise Risk Management framework. It received a deep dive presentation on one of the company's top corporate risks, and then it reviewed the company's HSE Scorecard for the first quarter of 2019, containing performance in-

dicators with respect to certain health, safety, and environmental metrics and targets.

The Compensation and Nomination committees also met the same day to address a number of agenda items.

The following day, the Board of Directors received updates on several of transactions, initiatives, and projects that the company is currently pursuing. The Board approved the company's First Quarter Consolidated Interim Financial Report for 2019, reviewed the company's Interim Accountability and Financial Condition Report, and endorsed the company's Corporate Strategy and Investment Plan for the period 2020-2029. In addition, the Board approved the May Expenditure Requests and received a status report on 2019 Capital Budgets.

## cybersecurity and appreciation

On May 4, the Board participated in a discussion on "Cybersecurity in the Age of Digitalization, and Global/Regional Geopolitics."

The reports, presentations, and briefings were received very well by our directors led by HE Khalid A. Al-Falih, Board Chairman, Nasser said. He added that the Board is very appreciative of the company's accomplishments in the first quarter and also noted the success of our inaugural bonds program in April.

Board members expressed their support for the company's plans and programs as Saudi Aramco continues to pursue strategies to grow and expand across the value chain.

Also, Nasser spoke on behalf of Saudi Aramco management in giving his best wishes to employees and their families for the Holy Month of Ramadan.

Nasser reminded management that the company's annual Ramadan donation campaign will be announced shortly, and he noted that this year employees will have more than one charitable cause that they can choose to support.

Nasser also urged employees to keep safety in their hearts and minds more than ever — at work, at home, and especially while driving.

## your voice

# more alternatives in the new age of education



by Cristian Alberch  
Dhahran

Cristian.Alberchgracia@aramco.com

As parents, we will go to any length to make sure our children get the best education to prepare them for adulthood and working life.

The average yearly tuition fee to study for an average degree in an average university in the U.S. is \$35,000 per year. That is \$140,000 for the privilege of obtaining an average four-year degree. This does not include other essential student costs such as accommodation, transportation, books, etc.

In my case, where I have three children that I hope will all go to university, this adds up to \$420,000 on tuition fees alone. That is a sobering thought.

That said, it may still be worth paying up if this investment will ensure a bright, secure future for your children — and perhaps this is what colleges are selling to us parents to justify their fees.

However, my personal experience from my time at university left me a little confused as to the point of taking notes from a professor writing notes on a blackboard. It seemed like we both wished we were elsewhere.

Did the university provide return on investment? Absolutely! The degree was free to my parents as it was paid courtesy of the U.K. government at the time (year 2000). Universities fees since then

are no longer paid by the government, following a trend worldwide of the increasing number of universities, variety of degrees, and increase in fees.

Over the last 30 years, tuition fees have tripled in the U.S. (taking into account inflation). In the same time span, the number of college graduates has increased by 50%, so not are only college degrees becoming massively more expensive, but they are also becoming more common.

The world that our children will grow up in, and the job skills required to succeed, will be unrecognizable from the present, and it seems to me that the current emphasis on traditional university degrees is misplaced. The ability to learn and adapt should be valued above all else, as professions evolve or become obsolete.

When I started in engineering, the expert knowledge resided in books and subject matter experts with prestigious university degrees. This is no longer the case, as much of the knowledge resides on the internet. The advantage lies not in what you know, but learning the skills and the tools to use the knowledge.

With the advent of online learning platforms such as Udacity, Coursera, edX, and Udemy, we have the ability to

customize learning to fit each individual's needs and desires, providing highly engaging, best-in-class content for a tiny fraction of the cost. These online platforms should not be confused with traditional e-Learning platforms. These online platforms provide interactive, skills oriented content, provided by the world's leading industry and academic institutions in a highly engaging manner.

My 9-year-old daughter is now learning to draw Japanese cartoon characters online with Udemy, my 12-year-old son is learning to code very simple games on Scratch with Udemy, and I'm carrying out my professional development in data analytics with Udacity.

University is so much more than passing exams and learning to derive Fourier transforms. It is learning to become independent — both academically and personally. The social skills learned during university are invaluable on a personal level and at the workplace, and I still hope that I will be able to save enough to put my children through university.

However, it may be time to rethink the highly expensive degrees and post-graduate degrees from Ivy League universities and business schools' MBAs, when the skills can be obtained online at a fraction of the cost.

# ‘good safety is good business’

## Downstream puts focus on health, safety, and environment

by Scott Baldauf

**Dhahran** — Representatives from a number of Downstream organizations, as well as domestic and international joint ventures and wholly owned subsidiaries, gathered at the Technical Exchange Center in Dhahran recently to participate in the Global Downstream HSE Forum.

The two-day event featured leading global experts in health, safety, and environment (HSE) and was attended by Abdulaziz M. Al-Judaimi, senior vice president of Downstream with Saudi Aramco, and his leadership team.

More than 175 attendees from the Kingdom, Europe, and Asia participated in the forum, which was itself a testament to the importance of the Downstream business line as the company's fastest growing sector.

Among the companies represented were Sadara, YASREF, SAMREF, ARLANXEO, SASREF, Luberef, SATORP, Sinopec, S-Oil, Saudi Refining, FREP, Motiva, PetroRabigh, and PRefChem, as well as strategic partners Ashomco, Tihama Power, and the Power Cogeneration Plant Company. The forum was organized by Majed A. Al-Osais, Marcus J. Griffin, and Roger L. Bresden with HSE Downstream Excellence.

### safety as an integral part of our business culture

In his welcoming remarks, Al-Judaimi drove home the importance of remaining vigilant on safety issues — both for the company and for its employees.

“Good safety is good business,” Al-Judaimi said. “Safety is one of our core values, and we strive to embed a safety first mindset in our employees and contractors. We want to ensure that safety is not just a standard, but an integral part of our business culture. We are seeing good results.”

Al-Judaimi noted that Downstream has seen steadily improved performance on HSE matters in recent years, and pointed with pride to the fact that Downstream has the highest level of job certification in the company, with a rate of 85%. But he added that “safety is something that has no end. It is a journey.”

Al-Judaimi added: “We are very proud of all that has been achieved, and look forward to doing even more to ensure that everyone continues to work in a safe environment, and gets home safe too. Ensuring safety practices on- and off-the-job helps uphold our standards of excellence.

“We must all remain vigilant, at all times, at all sites,” he added. “Because safety has a huge impact on the bottom line. But more importantly, safety also has a huge impact on human life.”

In a panel discussion with the Downstream leadership team, senior executives spoke of how an HSE focus is integrated into all levels of operations and they also took questions from the audience.

Among the panel participants were Power Systems vice president Abdulkarim A. Al-Ghamdi, Domestic Refining and NGL Fractionation vice president Suleman A. Al-Bargan, Marketing, Sales, and Supply Planning vice president Ahmed A. Al-Subaey, and Environmental Protection Department (EPD) manager Omar S. Abdulhamid.

### an array of topics

The remainder of the two-day forum included presentations and discussions on a wide range of topics, touching on a number of common issues and risks facing the Downstream industry.



*Bernd Hoppe of ARLANXEO discusses “Process Safety Management” as part of the recent Downstream’s “Global Downstream HSE Forum” in Dhahran. Hoppe was just one of a number of presenters during the two-day forum who touched on a variety of common issues and risks facing the Downstream industry.*

**David Bibby** of ISNetworld spoke about “Attributes of Leading Organizations — Best in Class Contractor Management Revisited.”

**Mark Scanlon** of the Energy Institute gave two presentations — one on “the Energy Transition, including Green House Gas Reduction,” and the other on “Integration of Human and Organizational Factors in Safety Management System.”

**Muhammad Qureshi**, a process safety expert in the Loss Prevention Department (LPD), gave a presentation on “Applying an Enterprise Risk Management Framework to Process Safety and Joint Venture Safety Performance Reporting.” LPD engineer **Husam E. Al-Khalidi** followed that up with a presentation on two key performance indicators for HSE that are monitored at the corporate level.

**Abdelbasit Ayoub**, a leadership development trainer with the Management and Professional Development Department, gave a presentation on “Psychological Safety: the Key to High-Performing Teams.”

**Mohammed J. Al-Shareef**, a Loss Prevention and process safety engineer at SAMREF, spoke about HSE efforts at SAMREF.

**Abdullah A. Al-Duaiji**, an environmental engineer with EPD, spoke about the company's efforts to divert company's generated waste into a usable source of energy.

**Omar Gonzalez Trujillo**, a compliance safety engineer with Eastern Region Terminal Operations, and **Fernando A. Lancheros Ayala**, a Turnaround and Inspection (T&I) group leader with LPD, spoke about best practices for T&I Assessment.

On day two, **Michael Coleman**, the IMEA business consultant for eVision Industry



*Roger L. Bresden of HSE Downstream Excellence discusses the outline of the Global Downstream HSE Forum — a two-day event held recently in Dhahran that featured leading global experts in health, safety, and environment. More than 175 attendees from Europe, Asia, and across the Kingdom participated in the event.*

Software, spoke about “Learnings and Implications of Industrial Revolution 4.0 on Safety.”

**Darrell Graham**, senior vice president of sales for Aware360 and Al Renner, director of operations for Aware360, gave a presentation on “How iDriveAware and other Technology Maximizes Safety in the Vehicle and Beyond.”

**Saleh F. Al-Yami**, Ras Tanura Refinery's emergency preparedness coordinator, gave an overview of RT Refinery's emergency preparedness process.

**Ibrahim O. Bajnaid**, a safety engineer with the Yanbu' NGL Fractionation Department, gave a presentation on Yanbu NGL's journey of SMS implementation through weekly focused walkthroughs and performance dialog meetings.

**Mohammed A. Al-Zahrani**, a process safety engineer at SATORP, spoke about the evolution SATORP's safety procedures.

**Dimos Tsakiris**, an engineer with Loss Prevention, gave a presentation on “Quantitative Risk Assessment in the Oil and Gas Industry.”

**Badr S. Aljohani**, the sustainability manager at Sadara, spoke on “Sustainability — Return on Investment.”

**Hany A. Quaidar**, a Loss Prevention and process safety engineer at SAMREF, gave a presentation on “Organizational Engagement in HSSE.”

**Abdullah J. Al-Khamis**, an engineer with EPD, spoke about “Corporate Greenhouse Gas Emissions Management Program.”

**Bernd Hoppe**, the global process and plant safety director at ARLANXEO, finished the two-day program with a talk on Process Safety Management.



Safety is one of our core values, and we strive to embed a safety first mindset in our employees and contractors. We want to ensure that safety is not just a standard, but an integral part of our business culture. We are seeing good results.

— Abdulaziz M. Al-Judaimi



*Badr S. Aljohani, the sustainability manager at Sadara, speaks on “Sustainability — Return on Investment” during the two-day forum. Among the companies represented were Sadara, YASREF, SAMREF, ARLANXEO, SASREF, Luberef, SATORP, Sinopec, S-Oil, Saudi Refining, FREP, Motiva, PetroRabigh, and PRefChem, as well as strategic partners Ashomco, Tihama Power, and the Power Cogeneration Plant Company.*

# first Saudi Aramco Investment Forum held in Dhahran

by Julie Springer

**Dhahran** — The first Saudi Aramco Investment Forum was recently held at the Technical Exchange Center.

The event, sponsored by New Business Development (NBD), Saudi Aramco Energy Ventures (SAEV), and Wa'ed, brought together representatives from across the company, including Upstream and Downstream, to discuss how investment groups in the company can improve collaboration.

The event also helped to educate Saudi Aramco investors on corporate strategy and market outlook while increasing awareness of — and collaboration among — various Saudi Aramco investment vehicles, with the ultimate goal of driving synergies across Saudi Aramco investment vehicles for greater value creation.

"Considering the aggregate number of investments, along with the various forms of investment transactions and amounts that we have deployed directly or through the investment arms, Saudi Aramco stands as an active commercial player," said Majid A.

Mufti, director of Corporate Venturing with Saudi Aramco.

"Such a forum that brings in the collective wisdom of the various groups is an important and necessary encounter to harness and align such efforts," he added.

Topics included information on global markets, big data, and investment vehicles. Two brainstorming sessions on cooperation and collaboration were also conducted.

## collaborative and informational

Presentations were given by Mohammed S. Hajjaj on behalf of NBD, Bruce D. Niven of SAEV, Khalil A. Shafei of Wa'ed, Feda A. Tuwajiri from the Global Analysis Department, and Timothy J. Polega of NBD.

"The investment forum was a great platform for exchanging ideas and lessons learned to pursue the business development in a more effective manner," said Salem M. Al Zahrani, director of Origination for NBD.

Shafei said the forum "brought together investment groups from all over Saudi Aramco and provided a platform for mutual



awareness and collaboration."

Key takeaways from the event include the importance of cross-representation on investment committees, the need for outside speakers to discuss the global economy, the creation of a lessons learned system for referral on past performance of investments, and the development of a tool to track all investments across the company.

*Timothy J. Polega was one of several presenters at the Saudi Aramco Investment Forum held recently at the Technical Exchange Center in Dhahran. The forum brought together representatives from across the company, including Upstream and Downstream, to discuss how investment groups in the company can improve collaboration. (Photo: Ding/MPD)*

# TSPA's in-house program offers professional development for young refining process engineers



*Final project evaluation committee member, Ahmad S. Al Bunaiyan from Downstream Process Engineering Division of P&CSD, Gonzalo Martinez and Jorge Delgado from Refining and Chemicals Facilities Planning Division of FPD, and Aman Khan from TSPA question team members on their business case proposal.*

by Aman Khan

**Dhahran** — The Technical Services Professional Academy (TSPA) has completed its first delivery of the in-house developed CHE 152 Accelerated Development Program for Young Engineers (ADPYE) in refining.

Sixteen process engineers from Saudi Aramco refineries in Yanbu', Riyadh, and Ras Tanura (RT) successfully completed the program.

Twenty instructors from Engineering Services, joined by field engineers from RT Refinery, delivered the five-week training program.

The program consists of all the core refining process operations, including crude unit distillation, catalytic reforming and isomerization, naphtha hydrotreating, diesel hydrotreater and hydrocracking, hydrogen plant, aromatic processing, IGCC, gas treatment, and the sulfur recovery unit.

In addition to the core refining processes, the program covers the engineering foundation required for major static and rotating equipment, process tools, and safety systems.

The objective of the program is to accelerate the development of young engineers from dependent employees to fully functioning independent contributors.

As a fully in-house developed program, it is tailored to reflect the company's refining challenges, ensuring that participants spend the majority of their class time in classroom activities and exercises designed around the refinery process engineer's work tasks.

Subject matter experts from the Process

and Control Systems Department's (P&CSD) Downstream Process Engineering Division, Gas Processing Unit of Upstream Process Engineering Division, and Process Automation Division; Refining and Chemicals Facilities Planning Division of Facilities Planning Department, as well as Domestic Refining and NGL Fractionation (DR&NGL) admin area field engineers, worked closely with TSPA program developers, following the course's robust development process.

This process not only develops technical instructional content that is participant-centric and application-oriented, but also utilizes the company's Four Critical Behaviors and five core values to develop responsible, accountable, and high-performing engineers.

Yahya Q. Al Daghri, superintendent of Human Resources Development with DR&NGL, addressed the participants and reflected on the need for an engineer to be a lifelong learner.

"It might take new engineers many years to gain the knowledge and skills covered in these five weeks," said Al Daghri. "This is a good start, but you're responsible for utilizing it effectively."

He went on to add that the future will expose them to engineering challenges as part of their daily work. Participants have the opportunity to prepare for these challenges in the safe environment of the classroom, and it requires their full participation — mindful of how they can implement these skills in their own work.

As part of the program launch, chief engineer Jamil J. Al-Bagawi and Menahi

M. Al Utaibi, Engineering manager at RT Refinery, stressed that the success of any training program is only measured through the application of the knowledge and skills gained during the program to the work environment.

They urged participants to get as much out of the program as possible, with the necessary goal of improving their own performance when they return to the job. Graduates were told that they are responsible for solving the challenges they will face when they return to their respective organizations. They were urged to start planning for that now.

As part of the program's classroom application, the participants were teamed up to propose a change in process as a final project. The project required participants to demonstrate the skills learned during the program through the development and defense of a business case for a panel of evaluators on the last day of the program. The business case articulated the team's conceptual design, process calculation, and economic analysis.

The evaluation panel consisted of Ahmad S. Al Bunaiyan from the Downstream Process Engineering Division of P&CSD, Gonzalo Martinez and Jorge Delgado, from the Refining and Chemicals Facilities Planning Division of the Facilities Planning Department, and Aman Khan from TSPA.

## 'boosted my refinery knowledge'

Mahmoud A. Alkahlout, an engineer with

the Riyadh Refinery Department/Operations Engineering Unit (OEU), was thankful to all the personnel who put the time and effort to make CHE152 such an impressive program.

"I have waited four years to have the opportunity to take CHE152, but it was worth waiting," said Alkahlout. "CHE152 has boosted my refinery knowledge, and even broadened my thoughts to new technologies and petrochemical processes. I have gained more confidence in monitoring, troubleshooting, and problem-solving at my plant. I absolutely recommend CHE152 to my peers."

Ahmed F. Al Dawood, an engineer with Yanbu' Refinery Department/OEU, recognizes the accelerated development program as an excellent and very beneficial program for any process/operations engineer with one or two years of experience.

"The program covered all aspects of refining and excelled in integrating the course material with existing Saudi Aramco refineries and joint ventures," said Al Dawood.

## the learning continues

Although the training program has concluded, the learning continues. The participants must demonstrate that the skills learned and practiced during the training are transferred to the job, and describe the outcomes of their on-the-job application as part of a business application submission, to be concurred with by their management.

TSPA evaluates the business applications and selects the high-performers for an annual recognition event.

This training program provides comprehensive coverage of the awareness and foundation-level competencies required in 14 Competency Maps (C-Maps) at the admin area level, 13 C-Maps through the Specialists Development Program, and two C-Maps at the corporate level.

TSPA is well-known among Saudi Aramco's professional, providing more than 160 technical courses for engineers in more than 12 disciplines. TSPA is an internationally accredited training organization, serving more than 6,000 engineers each year.

For more information on this program or any other TSPA course offering, employees may reference TSPA's Sharek webpage.

# prosperity continues to flow

King 'Abd al-'Aziz Al-Sa'ud readies to turn the valve allowing oil to flow onto the D.G. Scofield that would carry the first oil shipment directly from the Kingdom — a pivotal moment in Saudi Arabia's history.



Eighty years ago, on May 1, 1939, Saudi Arabia's founder King 'Abd al-'Aziz Al-Sa'ud personally turned the valve that allowed oil to flow into the tanker the *D.G. Scofield*, anchored off Ras Tanura

With the turning of his hands, King 'Abd al-'Aziz connected Saudi Arabia to the industrialized world.

It was a major event for the Kingdom. The royal companions and guests of the King numbered nearly 2,000 people and they had traveled in more than 400 cars from Makkah, Jiddah, and Riyadh. For several days, 350 tents were erected near Dhahran for events, tours, dinners, and speeches.

The visit — the first by King 'Abd al-'Aziz to Aramco — was a truly epic event. When Dammam Well No. 7 had stuck oil in commercial quantities one year earlier, no infrastructure was in place in order to ship oil to global markets.

Ras Tanura, with its deep water and sheltered bay, was identified as the perfect location to receive tankers. Pipelines and storage tanks were built, along with other required infrastructure.

The King arrived in Dhahran on April 28 and was welcomed by two days of banquets and inspections. He also personally received in his great pavilion tent all of the women and children. At Ras Tanura on May 1, telegrams of

congratulations were read, gifts exchanged, and King 'Abd al-'Aziz opened the line through which wealth, power, and global responsibilities would flow into his young Kingdom.

Now 80 years on, approximately one out of every eight barrels of oil around the world is produced by Saudi Arabia. The Kingdom is a leading economic nation and a member of the G20.

The Ras Tanura terminal that welcomed King 'Abd al-'Aziz has seen billions of barrels of oil loaded onto tankers and delivered to customers around the world, helping power global economies and enable greater prosperity and mobility.

## Supply Chain Tower: a transformative initiative

by Scott Baldauf

**Dhahran** — Saudi Aramco's Procurement and Supply Chain Management (P&SCM) recently unveiled its Supply Chain (SC) Control Tower — a strategic initiative designed to transform the supply chain process and to identify and address supply chain disruptions before they impact company operations.

### an early warning system

By integrating leading edge tools such as procurement and supply chain management solutions, analytics and reports, the SC Control Tower is already substantially improving the ordering and delivery of equipment and materials.

It serves as an early warning system for changes in supply or demand. It's a decision support center with visualization tools to analyze and plan, and is also an intervention control center, with triggers to assure prompt response. Additionally, it serves as a center for automation and continuous improvement to fine-tune and regulate the supply chain process.

Providing greater visibility of supply chain challenges and real-time information at hand, decision makers will be empowered to ensure that customers in the company's various operations lines can get the materials and equipment they need, when they need it, at the right price.

"The P&SCM Control Tower delivers immediate and sustainable value to the company through measurable improvements in cost, delivery, and localization, and is a trending technology. The Supply Chain Control Tower is a critical component to the CEO's vision to transform Saudi Aramco to be the most digitized energy com-



Business system analyst Abdulelah A. Sufyani presents a live demonstration of the Supply Chain (SC) Control Tower to members of management, including (standing from left) SCP&SD manager Wajdi Mugbel, Technical Services senior vice president Ahmad A. Al Sa'adi, Procurement and Supply Chain Management vice president Mohammad A. Al-Shammari, and SC Control Tower leader Rami Ambri. Sitting at the master workstation is business system analyst Riyadh Al-Qahtani.

pany by 2022," said Mohammad A. Al Shammari, vice president of P&SCM.

### like an airport control tower

Wajdi M. Al Mugbel, manager of the Supply Chain Policy and Systems Department, said the SC Control Tower plays the same role for supply chain as an airport control tower serves at a busy international airport.

"Imagine a control tower at a busy airport in the U.S., and there are 2,000 airplanes in the sky and some of them are waiting for their turn to land," Al Mugbel said.

"There needs to be someone tracking those flights, so they can safely arrive on time. With this SC Control Tower, we are monitoring, evaluating, interacting with customers and suppliers — all to create an

efficient supply chain for the company."

Like an aviation control tower, the SC Control Tower gives better visibility to identify potential issues in the procurement and supply of materials needed to support the company's operations. By carefully monitoring procurement orders already placed, and those expected into the future, SC Control Tower personnel can use leading edge decision support tools, including artificial intelligence and predictive analytics, to identify and address supply chain disruptions before they impact company operations — substantially improving supply chain performance.

### better decisions, better cost control

Enhanced visibility of supply chain problems or opportunities will also give the

company the ability to avoid costs, reducing investments in inventory and oversupply and bringing even more sustainable value.

Providing that end-to-end visibility of the company's supply chain — through real-time data on large screens — empowers operational decision makers to add unprecedented value through integrated triggers and alerts to identify disruptions, powerful analytical tools, and access to information to address issues in real time.

The SC Control Tower is an integral part of the Fourth Industrial Revolution Digital Transformation Center, where disruptive technologies and advanced analytics are leveraged to transform Saudi Aramco's supply chain toward digitalized operations and provide end-to-end value chain visibility.

# local pump production strengthens iktva



Signatories for four Contract Purchasing Agreements with Saudi Aramco gather to celebrate the latest advancement for the company's iktva program, which steers the company's spending toward local manufacturers and service providers in order to spur the Kingdom's economic growth. From left, the signatories are Nassir S. Al Yami, general manager for Procurement, George Hanna, president of Industrial Process for ITT, Frederic Lalanne, division president for Pumps Equipment for Suzler, Ahmed A. Al Saadi, senior vice president for Technical Services, Mohammed A. Al Shammary, vice president of Procurement and Supply Chain Management, Kirk Wilson, president for Aftermarket Services and Solutions at Flowserve Corporation, and Paolo Macchi, managing director of the Weir Group. (Photo: Moayed Al Qattani/MPD)

by Scott Baldauf

**Dhahran** — Saudi Aramco has signed four separate Corporate Procurement Agreements (CPAs) that will have the dual benefit of securing the company with a reliable supply of pumps for its operations, while also encouraging the development of local manufacturing and the creation of local jobs.

With a combined procurement value of more than \$1.15 billion, the four CPAs are the latest sign that Saudi Aramco's commitment to the In-Kingdom Total Value Add program (iktva) is stronger than ever and ingrained in the company's procurement process.

Under the iktva program, Saudi Aramco

has committed to drive domestic value creation and maximize long-term economic growth and diversification to support a rapidly changing economic environment.

## four agreements

The four agreements, signed by senior management of Saudi Aramco and four pump suppliers — Flowserve Corporation, Sulzer Ltd., The Weir Group PLC, and ITT Inc. — will provide for the supply of centrifugal pumps used in a wide range of fluid movement applications, including for water, sewage, petroleum, and petrochemical pumping.

Under the agreement, the four suppliers

are expected to build or expand their local manufacturing capabilities throughout the eight year agreement duration of the CPA.

Technical Services senior vice president Ahmad A. Al-Sa'adi presided over the signing ceremony, with Procurement and Supply Chain Management vice president Mohammad A. Al-Shammary signing the agreements with the four suppliers.

Other attendees included Procurement general manager Nassir S. Al-Yami, Industrial Development and Strategic Supply manager Abdallah B. Al-Thaaly, Projects Procurement manager Abdullah A. Al-Sughaiyer, and Operations Procurement manager Khalid S. Al-Hajri.

## another milestone

"Today, we are here to celebrate another milestone in the localization journey in support of the Kingdom's Vision 2030," Al-Saadi said. "Iktva is now a cornerstone of Saudi Aramco's procurement process which helps us to drive a more efficient supply chain, grow the private sector, and diversify the economy."

"Our work is not done today; it's just the beginning," Al-Shammary said. "We must continue to work together to make these long-term agreements a win-win for all of us. Establishing enough local capacity is a crucial part to make the agreements successful and to ensure Saudi Aramco projects' run smoothly without any disruptions."

By prioritizing procurement of materials from local manufacturers, Saudi Aramco's iktva program drives increased investment, economic diversification, job creation, and workforce development within the Kingdom. By 2021, Saudi Aramco aims to achieve 70% localization of all spending, create thousands of skilled jobs, with the potential to increase the high-value exports of Saudi energy sector products.

These latest CPAs will further enhance the company's ongoing support and commitment to empower local companies.

The centrifugal pumps that will be procured locally have an average life span around 20 years, however, Saudi Aramco has similar pumps that have been in service for more than 40 years. Creating strategic localization relationships with our key suppliers helps Saudi Aramco to mitigate operational risks and reduce life cycle costs.

# Saudi Aramco promotes nonmetallic materials within the International Association of Oil and Gas Producers

by Isaac Aguilar Ventura

As part of Saudi Aramco's advocacy efforts to promote the use of nonmetallic materials in the oil and gas industry worldwide, Saudi Aramco Engineering Services is leading the effort to create the first nonmetallic material standards committee within the International Association of Oil and Gas Producers (IOGP).

Composed of the world's main oil and gas producers, the IOGP includes British Petroleum, Shell, Total, ExxonMobil, Equinor (formerly Statoil), Saudi Aramco, and others. Collectively, IOGP members produce 40% of the world's oil and gas. Among the goals of the IOGP is to develop standard practices for continuous improvement in several sectors relevant to the in-



Waleed Al-Otaibi, third from right, was among those who participated in the International Association of Oil and Gas Producers' (IOGP) Materials and Corrosion committee meeting in Oslo, Norway. In two separate meetings with the representatives of the IOGP — one held in Houston in the U.S. and the other in Oslo, Norway — Jamil J. Al Bagawi and Al-Otaibi shared their significant experience with polymer and composite products that Saudi Aramco has utilized in its operations, such as reinforced thermoplastic pipe and reinforced thermosetting resin pipe.

dustry, including materials and corrosion.

In two separate meetings with representatives of the IOGP — one held in Houston in the U.S. and the other in Oslo, Norway — Saudi Aramco's chief engineer Jamil J. Al-Bagawi and Nonmetallic Engineering Division coordinator Waleed L. Al Otaibi shared their significant experience with polymer and composite products that Saudi Aramco has utilized in its operations, such as the reinforced thermoplastic pipe and reinforced thermosetting resin pipe.

To date, more than 5,000 kilometers of these high-pressure nonmetallic pipes have been deployed in Saudi Aramco applications such as flow lines, water injection, and other hydrocarbon and water pipelines. These large-scale deployments make Saudi Aramco one of the largest users of nonmetallic pipes among all oil and gas industry operators.

## our nonmetallic road map and opportunities

During the most recent assembly in Oslo, Al Otaibi presented to IOGP members the Saudi Aramco nonmetallic roadmap, experience, and collaboration opportunities. He highlighted that Saudi Aramco envisions polymers and composites to be the leading growth segment among materials — not only for our industry, but the company is also quickly gaining ground in other sectors such as building and construction, automotive, and packaging. The main advantages of these materials include the immunity to corrosion, ease of installation, and favorable life cycle cost benefits.

In addition, polymers and composites hold a strategic importance for oil and gas producers because the raw materials used to fabricate them are part of the industry's value chain.

"The engagement with the IOGP mem-

bers generated great discussion and questions about the various nonmetallic applications," said Al Otaibi. "It was clear that Saudi Aramco is in a leading position when it comes to nonmetallic products deployment in oil and gas applications. The IOGP members were impressed by our deployment roadmap, accomplishments, structured approach, and looks forward for this collaboration."

## new task force

As a main outcome of this engagement, the IOGP has already proposed to establish a new task force to be led by Saudi Aramco with participation of representatives from member oil and gas companies to jointly develop a nonmetallic roadmap that will capitalize on previous experience and address any challenges that will maximize the applications of nonmetallic materials in the industry.

## Why nonmetallic?



Corrosion in oil and gas operations is generally caused by water, carbon dioxide (CO<sub>2</sub>) and hydrogen sulfide (H<sub>2</sub>S), and can be aggravated by microbiological activity. The cost of corrosion is very high. Deploying nonmetallic materials in economically and technically feasible applications combats corrosion.

# ‘Ready & Able’ offering practical tools for inclusion

by Hanoof Alseleem

**Dhahran** — Saudi Aramco’s Women Development & Diversity Division (WD&DD), under the Management & Professional Development Department, recently launched a first disability awareness workshop — “Ready & Able: Introduction to People with Disability Inclusion.”

The half-day session provided participants with a better understanding of People with Disability (PwD) inclusion, while providing practical tools that can be implemented immediately in the workplace.

The workshop, which took place on April 24, was open for voluntary registration to all employees across various business lines to bring more awareness on how to be more inclusive of all members in the organization, giving suggestions as to how to interact with PwD, as well as understanding barriers that prevent achieving disability inclusion in the workplace.

## fostering inclusion

Opening the event, Nabil K. Al Dabal, executive director of HR and the sponsor of the workshop, reminded attendees that the focus of Saudi Aramco has always been around its people, and the company’s success is a testament of that commitment to employees.

“Looking at the future, the company is continuing and putting more focus on its people and their concerns, inclusively people with disabilities, as all pillars of success evolves around them, and we aim for some positive changes to be the role model for the country when it comes to caring for those special people.”

Al Dabal further stated that, from a commercial point of view, data has shown that missing-out on any area of the human aspect, particularly people with disabilities, can result in decreases in profit and performance



The half-day session provided participants with a better understanding of people with disability inclusion, while providing practical tools that can be implemented immediately. The workshop was open for voluntary registration to all grade codes to bring more awareness on how to be more inclusive of all members in the organization. (Photos: DingJMPD)

opportunities.

Al Dabal thanked Community Services as they responded very positively on surveying buildings that needed accommodations for PwD, as well as providing priority lanes for them to have proper access to facilities.

Personnel and HR are also developing a special GI for special needs people, and have recently introduced a new policy of reducing working-schedule hours as people with special needs can now opt to work for four, six or eight hours per day — following the best universal practices.

Johns Hopkins Aramco Healthcare (JHAH) is also taking major steps in this area and making noticeable progress on accommodating their facilities and policies to pave the way to a more inclusive environment.

The interactive workshop fostered open communication for over more than partic-

ipants from inside the company and JHAH to understand the concept of PwD inclusion in the workplace and its importance, acquire knowledge on barriers to inclusion and how to eliminate them, and increase the engagement and maximize the contribution of diverse individuals as well as accommodating their needs.

Saudi Arabia’s Vision 2030 emphasizes the importance of providing proper education and job opportunities for PwD. Saudi Aramco is also taking progressive steps toward fostering an inclusive work environment, and the workshop represents that commitment.

“It is very important to be inclusive in our community and workplace, and inclusion starts with the right attitude,” said Wael S. Alamri, program lead of Disability Inclusion within WD&DD. “The population of PwD is

huge — 1.3 billion worldwide. Imagine the great social and economic benefits if we all become inclusive and tap into such vast resource of human capital.

“Saudi Aramco is taking the right step by addressing PwD matters with its employees and encouraging the efforts to be more inclusive, and thereby, utilizing the significant pool of PwD talent.”

## ‘raise awareness’

“People with disabilities is a very sensitive subject, so I thought participating in the workshop could raise awareness and I can take that back with me to my department,” said Danah A. Alruwaili, a workshop participant with the Community Services Technical Support Department. “I can get answers to the sensitive questions that normally people may not want to ask. What was great about this workshop is that it was presented by someone with a disability so we could all hear what he has to say from his point of view, and I hope to attend more similar workshops in the future,” said Alruwaili.

Another participant, Abdulbaset A. Alomary with the Personnel Department, also shared his thoughts about the workshop.

“I participated to reflect new ideas on hiring people with special needs to my department, and I found more than what I was searching for as the discussion started and ideas started floating,” said Alomary.

Nothing encapsulates the impact of this workshop better than a statement by Mark Morley, a specialist in International Media Relations.

“My father is a paraplegic and therefore I grew up understanding disability from my very earliest memories,” said Morley. “I believe that the workshop captured each and every important aspect in the work of fully and properly integrating people with disability into the workplace.”

# workshop: resilience key to crisis management, continuity

by Scott Baldauf

**Al-Khobar** — Saudi Aramco’s Corporate Emergency Management and Continuity Division (CEMAC), under the Oil Supply Planning and Scheduling Department (OSPAS), recently held a Crisis and Continuity Management Workshop for joint ventures and subsidiaries to align crisis management practices and frameworks as a step toward greater resilience.

The event was attended by more than 200 representatives from 37 domestic and international subsidiaries and joint ventures.

## accelerating resilience

In aligning our business continuity and crisis frameworks, CEMAC is playing a key role in accelerating resilience across the joint ventures and subsidiaries as Saudi Aramco moves to become the world’s leading integrated energy and chemicals company.

The workshop provided a platform to examine current practices and establish opportunities to coordinate in future business continuity and crisis management development to work toward implementing effective risk mitigation measures.

Mohammed O. Al-Subaii, then acting OSPAS manager, commended delegates for working “to enhance our organizations’ resilience — both individually and collectively.”

Recognizing that this cannot be achieved individually, he urged all to embrace collaboration and partnership opportunities.

## pillars of resilience

The pillars of resilience, Al-Subaii noted, are enterprise risk management, emergency and crisis management, as well as business continuity management. He encouraged delegates to use the workshop to learn from each other and deepen their knowledge of the company’s practices in order to achieve the objectives of the workshop.

Richard Reed, head of CEMAC, noted the importance of CEMAC’s vision for resilience in protecting Saudi Aramco’s interests against direct losses and subsequent interruptions that may result from crisis situations.

Reed highlighted the company’s long history of ensuring delivery to its customers — both domestically and internationally — the result of extensive operational contingency planning and effective response capabilities.

By working collaboratively and aligning practices, he said, delegates will be better prepared to build on their company’s reputation for reliability, adapt to the challenging global marketplace, and integrate new innovative ideas to drive continuous improvement.



In his opening remarks, Richard Reed addresses the importance of Saudi Aramco’s Corporate Emergency Management and Continuity Division’s vision for resilience in protecting Saudi Aramco’s interests against direct losses and subsequent interruptions that may result from crisis situations.

## CEMAC’s mission

CEMAC’s well-defined mission serves as a template for the delegates of joint ventures and subsidiaries, responsible for implementation of the Business Continuity and Crisis Management strategy.

This CEMAC mission includes:

- Leading in the development of programs that preserve the continuity of company operations
- Ensuring that crises are managed effectively through active engagement with internal and external stakeholders
- Providing support to the company’s executives during a crisis

Reflecting the diverse audience, delegates were presented with a range of presentations including enterprise risk management, the process of embedding business continuity, implementation of crisis management at operational and strategic levels, managing public relations during a crisis, and cybersecurity. Delegates were also given a tour of the OSPAS Operation Coordination Center, acknowledging the maturity of Saudi Aramco’s approach to business continuity and crisis management resulted in a series of initiatives to work together on areas of common interest.

# Industrial Security gives homeowners a 'secure' peek at the future

by Musherf Alamri

**Dhahran** — From intelligent cameras to smart locks, the second Home Security Campaign organized by Industrial Security organization in the Al Midra gallery recently highlighted best practices in securing residential properties.

Visitors learned about the latest methods to secure their homes through interacting with Saudi Aramco subject matter experts and representatives from the industry, said Adel F. Wuhaib, manager of Industrial Security Support Department (ISSD).

"The campaign is an opportunity for us to share some of our in-house expertise with the community and have conversations about the latest technologies for home security available in the local market for consumers to empower employees to find the best way to provide security for their homes," Wuhaib said. "This is in line with the company's citizenship value."

## four focus areas

The event featured a knowledge booth staffed with subject matter experts from Industrial Security who provided visitors with an overview of home security, said Rayyan M. Alorini from ISSD. The key focus was on four areas:

- Intelligent internal and external surveillance cameras, which only record when the sensors detects a relevant motion in the area instead of continuously capturing



Aali M. Al Zahrani, Saudi Aramco executive director of Safety and Industrial Security, is joined by Abdullah A. Al-Ghamdi, Industrial Security Operations acting general manager, and others during the recent Home Security Campaign held in Dhahran. The campaign was an opportunity to share in-house expertise with the community and promote conversations about the latest technologies for home security available in the local market.

footage. This reduces the storage requirement, while making the review process easier and more efficient. Visitors were advised to first do a camera coverage test prior to installing surveillance systems.

- Motion or glass break sensors for those

not wishing to install indoor cameras for privacy concerns. When an intruder breaks into a home, those sensors, which are connected to a security system, will alert the user or sound the alarm depending on the setting.



- Smart locks, which are convenient and secure, as they can be opened through a fingerprint or a mobile phone. These locks, which cannot be picked like conventional ones, are also more convenient for homeowners because they do not have to worry about carrying — and in some instances, losing — the keys.

- Vehicle tracking systems to alert car owners if drivers are not following traffic safety rules.

## better information for better solutions

The knowledge booth allowed visitors to gain an understanding of the latest methods to secure their homes so they can prioritize their needs and select the most suitable solution, said Majed N. Alshalaan, who works with ISSD.

The event also included booths for home security solution providers based in Saudi Arabia offering special offers and discounts for the visitors to get an overview of the local market. The highlights included a smart camera that has facial recognition capabilities that can allow homeowners to program the security system to open the door via the smart lock for certain people.

Visitors also learned how the coverage of the surveillance system can be expanded via using wide lenses.

# Aramco shapes transport conversation during SAE High-Efficiency ICE Symposium



Mark Sellnau (center) and Xin Yu from the Aramco Research Center-Detroit visit with Gustav Nyrenstedt, Ph.D. candidate, from King Abdullah University of Science and Technology during a symposium break. A collaboration between Saudi Aramco's Research and Development Center and the University's Clean Combustion Research Center addresses fundamental and applied aspects of fuel combustion in engines.

by Susan V. Gonzalez

**Detroit** — Raising the efficiency of engines in passenger vehicles and heavy-duty trucks has Saudi Aramco focused on the creation of an automotive technology portfolio with the power to substantially reduce the carbon dioxide (CO<sub>2</sub>) footprint of internal combustion engines (ICE), a significant source of emissions.

Prior to the start of this year's Society of Automotive Engineers (SAE) World Congress, Aramco participated in the High-Efficiency Internal Combustion Engine (ICE) Symposium. Further development of high-efficiency engines utilizing widely

available fuels is an attractive option to reduce emissions faster and affordably.

## sharing improvements

Mark Sellnau, principal engineer with the Aramco Research Center-Detroit, spoke during the session titled "Low Temperature Combustion" and reported on progress toward commercialization of light-duty gasoline compression ignition (GCI) engines.

"There has been significant progress developing robust and practical low-temperature combustion solutions, but there is critical work needed in the short term," explained Sellnau.

In his presentation, "Pathway to 50% Brake Thermal Efficiency: Gasoline Compression Ignition" and technical paper (SAE-2019 01 1154), he showed test results on an engine with fuel efficiency over 43% with ultra-low emissions of NOx and particulate emissions.

Sellnau also explained current Aramco research combining GCI technology with a mild hybrid system to achieve near 48% fuel efficiency. Early vehicle simulation results from Argonne National Labs indicate fuel economy improvements of greater than 70% when a GCI engine was paired with a 48V mild hybrid system.

An SAE Fellow and member of the society's Powertrain Committee since 1996, Sellnau emphasized the practicality of GCI engines, as evidenced by Aramco's collaboration on GCI with OEMs in the U.S. and Europe.

## connecting with automakers

Workshops such as this keep Aramco in

close contact with the auto industry, allowing us to provide our unique perspective of engines and fuels working in a holistic way for greater fuel economy with significantly lower emissions.

Aramco served as a sponsor for the two-day symposium attended by more than 175 product design engineers, executives, suppliers, researchers, and government officials focused on refinement and efficiency of internal combustion engines.

Aramco's global fuels research network includes the Research and Development Center in Dhahran, the Aramco Research Center-Detroit, the Aramco Fuel Research Center-Paris and the Beijing Research Center, along with work through the FUELCOM collaboration with the King Abdullah University of Science and Technology — all contributors to SAE's full conference technical program.

This year at SAE, Aramco presented in sessions, including "Multi-Dimensional Engine Modeling," "Particle Emissions from Combustion Sources," "Fuel and Additive Effects on Engine Systems," "Partially Premixed Compression Ignition," and "Advanced Fuel Injection and Sprays."

Aramco extended its commitment to SAE this year by becoming a national partner in the SAE Foundation's "A World In Motion" program designed to promote science, technology, engineering, and math (STEM) education with young students, grades K-8. Up to 3,000 students in the communities where Aramco Services Company operates — Houston, Detroit, New York, and Washington D.C. — will have the opportunity to engage with hand-on learning activities.



# unconventionals turn to solar power for remote wells in Kingdom's North

by Basil H. Al-Dossary

**Turaif** — Five years ago, Saudi Aramco committed itself to supply the required fuel gas to the new Saudi Electricity Company power plant and to the Ma'aden Phosphate beneficiation plant at Wa'ad Al Shamal Industrial City in the northern region of Saudi Arabia.

It was an ambitious commitment, given that the company would need to explore and master one of the newest and most difficult segments of the oil and gas business: unconventional gas. The work execution program to deliver these commitments was divided into Phase I and Phase II.

In May 2017, the mechanical completion for the Phase I unconventional gas facility in the Kingdom was completed. Designed to be cost-effective, fit-for-purpose, the 79 million standard cubic feet per day gas production facility is processing gas from 10 unconventional wells near the northern city of Turaif, and then the gas is shipped through pipelines to key customers, including the Saudi Electric Company's 1 gigawatt power plant

at Wa'ad Al Shamal and Ma'aden's phosphate plant.

## thinking outside the box

Effort was then focused on delivering Phase II, which is composed of four facilities. The system's design concept is to achieve the lowest capital cost system that is safe to build and operate, as the unconventional gas wells have a shorter life cycle. The first facility was mechanically completed on December 2018.

But to remain competitive, it is critical to constantly think outside the box. So when wells were found to have good promise but were further away than anticipated, the team opted to hook up the wells using an off-grid hybrid photovoltaic solar power system to power the remote gas wells in the Jalamid Field in the Al-Jouf area of Northern Border Regions in Saudi Arabia.

This was a remarkable achievement for Saudi Aramco because it is the first time in the history of the Kingdom that well sites have been powered by solar energy. This is a departure from regular practice

of self-produced electricity that relies on transmission via overhead lines.

The photovoltaic solar and battery system equipment is specified and designed as modular — standardized to be relocatable to other new gas wells.

## a portable, cost-effective solution

Utilizing off-grid photovoltaic solar power and battery systems is a cost-effective solution to power remote unconventional gas wells with energy storage to supply power continuously for five consecutive days with no sunlight.

The photovoltaic solar power system has a charge controller system output of 48VDC and has a nominal distribution system voltage of 480Vac, 3-Phase, 60Hz.

The installed off-grid hybrid photovoltaic solar power system has a footprint of 42 meters by 114 meters, with 100kW PV modules, 1900kWh of VRLA battery, and a tilt angle that is adjustable between 35 and 45 degree PV arrays (oriented facing south). The system has a five-year life cycle for the battery and 20 years for other components, with a redundant power

configuration utilizing multiple inverters. They have five days autonomy and a 150 kilo-volt ampere mobile backup generator.

## other benefits

Some of the major benefits include, but are not limited to, reusability for the other well sites, ease of mobility to other remote locations, an improved schedule impact on projects, independent power generation that is not dependent on power line grid, less down time and maximum guarantee of gas production, complete elimination startup requirements in the case of fuel for power generation, and general cost savings associated with deployment and operations.

This project has demonstrated that solar power has a wider use in the development of Saudi Aramco projects in the Kingdom and reflects the company's commitment to protect the environment and preserve the Kingdom's natural resources.

As a technology leader in the industry, it is another opportunity to showcase Saudi Aramco's depth of knowledge and commitment in this field.



Giant solar panels were recently employed in the Kingdom's North to power well sites in the remote Jalamid Field in the Al-Jouf area. The system is portable and provides independent power with minimal down time to better serve the company's gas production efforts.

# edX collaboration provides employees access to online courses from prestigious institutions around the world

by Imran Munir and Jim Cook

E-learning changed the face of training by overcoming the logistical challenges involved with traditional classroom learning, such as time away from work and home, schedules, and long-distance travel.

The e-learning format posed challenges of its own, however, such as limited subject availability, lack of depth, limited interaction between students and teachers, and a perceived quality gap between e-learning and content offered by prestigious institutions.

Training and Development's new collaboration with edX will address many of these challenges, providing easy access to online courses from some of the world's most prestigious education and training institutions. The collaboration will provide employees with easy access to hundreds of courses from top education and training organizations — giving them more options and convenience than ever to grow professionally.

"Having listened to our customers, we wanted to provide them with a choice while also delivering a cost-effective solution that will allow employees and organizations to better manage their own training and certifications," Abdullah A. Ghabbani, director of the Learning Solutions and Services De-

partment (LSSD) said. "This is our commitment to lifelong learning for employees."

## what is edX?

The Massachusetts Institute of Technology and Harvard University formed edX in May 2012 to offer their courses via an online platform, or Learning Management System (LMS) called OpenedX. Since then, more than 130 institutions have joined edX, including Ivy League and other prestigious schools such as the California Institute of Technology, the University of California, Berkeley, and Princeton University, as well as institutions

from all over the world including the University of Oxford, Imperial College, Hong Kong University, the University of Tokyo, and more. Contributors are not just limited to universities. Since its introduction, a large number of organizations such as IBM, Microsoft, Amazon, and even charitable foundations such as Amnesty International have joined the platform as content contributors.



Today, the edX platform contains more than 1,900 courses, and supports more than 14 million learners worldwide.

edX offers a wide variety of content, including courses in technology, science, the humanities, finance, management, and languages, as well as industry specific content. Content is not limited to academia. One of the most popular courses on the platform today is The Science of Happiness offered

by the University of California, Berkeley. Here's what *Huffington Post* had to say about the course: "A free eight-week Science of Happiness course that will offer practical, research-backed tips on living a happy and meaningful life."

Most of the courses on the edX platform are self-paced and can last anywhere from a day to several weeks. The courses are supported by assignments and video tutorials. In some cases, blogs are used to allow students to interact with one another. Upon completion of a verified course, students

may obtain a certificate of completion from the learning provider.

## how will edX work at Saudi Aramco?

LSSD, in coordination with the Information Protection Department, has configured Saudi Aramco's LMS to communicate with the edX system.

"The integration of edX into the Saudi Aramco LMS provides our employees with a one-stop shop for all of their learning needs, and will allow us to now include edX courses into employee development plans," said Imran Munir, E-learning Solutions Unit supervisor. "Upon completion of any course, it will be reflected in the employee training history."

The introduction of edX is one of LSSD's new services for 2019 for its "World of Learning" campaign. This campaign began in 2018 with "e-learning, anywhere, anytime" — a mobile application that provides Saudi Aramco dependents with access to a catalog of more than 500 certified, professional e-learning courses.

To learn more about how the new edX integration can benefit you, visit <https://learning.aramco.com.sa/edx> from any workstation on the Saudi Aramco network.

## diversity@work

## STEMania catches on, graduates over 1,200 students

by Fie Alyami, Fatima Alkana'an (co-op students), and Rene van Huyssteen

The tide of opportunity for Saudi Arabian girls and women has been steadily rising over the past few years.

But during STEMania graduation days, that tide feels more like an unstoppable tsunami as students from different schools come together with their mothers to celebrate the giant leaps they made in the exciting fields of science, technology, engineering and mathematics (STEM).

STEMania is, of course, Saudi Aramco's award-winning program that introduces and teaches girls aged 7 to 15 about the awe and wonder of STEM. It motivates the next generation of females, while also providing the building blocks for a technical generation to be successful with modern skills in our fast-paced 21st century work environment. Since January 2019, the program has graduated over 1,200 students throughout the Kingdom.

More than 570 of those students from different schools in the Eastern Province and al-Hasa recently came together in two separate STEMania graduation events.

### inspiring STEM stories

At Saad National School in Dammam, future scientists, technology experts, engineers, and mathematicians began their evening by dressing up as engineers before one of them delivered the opening address.

The ceremonies were initiated by introducing the audience to the STEMania program and it was explained how it aligns with the Kingdom's Vision 2030.

She elaborated on the program's importance in the students' lives and how it improved their skills in different STEM fields.

Director of the school, Rowdah Al-mishari, followed up by welcoming all attendees and explaining how the school values and supports the use of technology as a way of preparing students for the future workplace.

After a reading from the Holy Qur'an, the national anthem was played and representatives from Saudi Aramco and the Ministry of Education shared some insights on the success of the STEMania program.

An inspirational message from Halah Alwagdani, a highly successful geologist from Saudi Aramco, left the students enthralled as she recalled how her father supported and encouraged her to pursue her dream of becoming a scientist.

This was echoed by Aram Alyahya, as she also shared how she loves being a business analyst at Saudi Aramco.

In a heartwarming address, one mother spoke about how STEMania has helped her daughter to be more creative and curious about the world.

A short video was then shown, featuring highlights of the work done by students during the program.

The highlight was undoubtedly when some of the students shared their own experience of the program. Especially endearing was the confidence that even the youngest girls displayed as they spoke about the positive effect the program had on them personally.

"I always wondered how phone applications were created and designed and I



Projects and innovations from participants in the STEMania program are highlighted during a recent ceremony.

asked myself if I could one day create my own application, said 13-year-old Mujood Al-Atta. "At STEMania, we managed to transfer our simple ideas into reality by creating our own application. One day I hope to create applications that will be used around the world."

Asma Bakhshab is the mother of two girls in the program.

"I noticed a big change in my two daughters' personalities after they joined STEMania," said Bakhshab. "They would come home and continue discussing what they experienced and learned in the program. They enjoyed it so much that they even signed up as part of the presentation team for the graduation ceremony."

### student invention

At the 20<sup>th</sup> Intermediate School in al-Hasa, the ceremony started with an impressive opening as students presented themselves and their inventions fluently in both Arabic and English. The audience was wowed by the ability of these children in articulating how they will create the future they would like to see through being innovative in the fields of STEM.

After the ceremony, the audience was

taken on a tour of all the projects as the makers stood by to explain their innovations.

### volunteers and feedback

Running a program like STEMania requires a huge team that works endless hours behind the scenes, and fittingly, both days were brought to an end by thanking those people and honoring them.

Feedback from graduates was overwhelmingly positive.

"I used to hate programming and computer subjects, but my friends encouraged me to participate in STEMania," 13-year-old student Raghad Alyami said with a big smile. "The method of teaching encouraged me to think more and ask more questions, and now I love programming. I want to be a mechanical engineer like my brother and work with him to open our own company."

"Thank you Saudi Aramco for this amazing program. We need more programs like these in our country," said the mother of one of the students.

For more information regarding this inspirational program, please contact [ghada.thukair.1@aramco.com](mailto:ghada.thukair.1@aramco.com).

The Women Development and Diversity Division, part of the Management and Professional Development Department, strives to strengthen the female pipeline while also building a respectful ecosystem that embraces diversity. For information on early career programs for women, contact [DiversityPrograms@Exchange.Aramco.com.sa](mailto:DiversityPrograms@Exchange.Aramco.com.sa).

## SDP graduates 11, new advanced program announced

by Badea A. Jambi

**Dhahran** — A graduation ceremony was held recently at North Park to recognize 11 new technical specialists who have completed Saudi Aramco's Specialist Development Program (SDP).

The ceremony was attended by Yousef A. Al-Ulyan, vice president of Information Technology, as well as chief engineer Jamil J. Al-Bagawi.

The newly minted specialists represented Information Technology, the Consulting Services Department, the Process and Control Systems Department (P&CSD), the Inspection Department, the Power Systems Engineering Department, and the Research and Development Center.

The graduates covered a broad cross-section of technical specialties, including protective coating, reliability engineering, electrical inspection, petrochemical, business intelligence, systems administration, data networking, protection and control, as well as hydrocarbon conversion and petrochemicals research. This year's graduation marks a significant milestone for the program, celebrating 35 years of service.

### specialists leave their mark

In delivering the keynote address Al-Bagawi — SDP board chairman — congratulated the specialists and reflected on



Rakan S. Bilas shares his personal experiences of adversity and the challenges he faced in completing the Specialist Development Program. Bilas was one of 11 Saudi Aramco employees who were recognized during a recent ceremony held in Dhahran. (Photo: Abdullah Alshammari/MPD)

the impact the SDP has had over the years.

"The success of this program is evident from our engineers' technical progression," said Al-Bagawi. "It is reflected in the significant contributions made by previous SDP graduates, now our company's leading specialists, who continue to spearhead our unmatched capital program, support our expanding operations' asset base national-

ly and internationally, and implement new technologies and innovative solutions."

Al-Bagawi went on to highlight the SDP's role in developing the technical expertise required to lead the digital transformation of the company's operating facilities and to safeguard the company's IT infrastructure and security.

The program provides a structured professional development path in technical specialties — a path that includes internships, advanced degrees, and relevant certifications.

To qualify for graduation from the program, a candidate must demonstrate a significant contribution to the company's technical operations.

### a specialist's journey

Rakan S. Bilas, a petrochemical specialist with P&CSD, shared his personal experiences with adversity and challenges to reach the professional achievement embodied in his SDP graduation.

He spoke of the example set by his father, the son of illiterate parents who himself reached the highest position an employee could reach — a success story that inspired him to commit to the same endeavor in his own career.

Joining Bilas (petrochemical) in successfully completing the program were Hassan

S. Al-Sagour (protective coating), Khalid A. Al-Jabar (reliability engineering), Riyadh A. Al-Awad (electrical inspection), Abdulrahman M. Hajjar (business intelligence), Al Alaa N. Tashkandi (ERP systems administration), Majed A. Al-Sahli (ERP systems administration), Mohammed H. Suwaimil (system administrator), Hasan M. Al-Fareed (protection and control), and Saad A. Al-Bogami (hydrocarbon conversion and petrochemical research).

For those attaining the coveted specialist title, the chief engineer announced the establishment of the Advanced Professional Development Program, which extends the technical job ladder beyond specialist to senior consultant, and to principal professional — the highest technical position available in the company. This program seeks to retain technical expertise in the technical job ladder by opening up further career aspirations to those candidates who have already successfully completed the SDP.

The SDP currently has more than 139 technical specialties being pursued by more than 400 enrolled participants from eight admin areas. Since the program's inception, more than 348 participants have earned the specialist designation.

The program is administered by the Technical Services Professional Academy and is governed by the SDP board.

# Ithra unveils towering ‘Source of Light’

by Ithra Communications Team

**Dhahran** — The King Abdulaziz Center for World Culture (Ithra) in Dhahran this week unveiled a new sculptural commission by Turin-based artist Giuseppe Penone titled “Source of Light.”

The 90-foot tall work consists of three towering bronze trees that “grow” from the base of the Source — the physical core of the building — which marks the symbolic location near where Saudi Arabia first discovered oil in 1938.

Three towering bronze trees rise more than 92 feet in height and are supported by the branches of a fourth larger tree, which is divided into hollow sections, forming a telescope-like viewing space that projects up towards the sky and appears to levitate above the pool. This central tree, made of stainless steel, creates an open interior space and golden shaft of light for visitors peering upward.

Source of Light is Ithra’s largest permanent art commission and celebrates the history, creativity, and energy that is at the core of the new cultural landmark.

## inspired by nature

Throughout his highly influential career, Penone has been inspired by a variety of organic systems and natural forms — including wood, stone, resin, and the human body — believing in the interconnectedness between human beings and nature. This commission, the most monumental and spectacular of the artist to date, responds both to the Source and to the natural forms and sustainable materials of Ithra itself,

which evoke rocks and mountain ranges. The sculpture connects the earth below with the sky above, forming a symbolic link between these two sources of energy.

“The Source of Light” emphasizes and represents the energy extracted from the earth that helps life and growth,” said Penone. “It symbolizes the Source, where oil needed for the growth and development of the world’s economy was discovered. It celebrates with its own form and materials, including the gold that covers the central tree’s inner surface — the elevation of life.”

A Saudi Aramco citizenship initiative, Ithra’s iconic architecture was designed by Oslo-based architects Snohetta. The buildings form four giant high-tech rock-like structures which support one another — linking the past, present, and future.

At the center lies a deep and open square well — the symbolic location of the Source, where oil was first discovered in the region.

The journey to the Source takes visitors down a spiraling ramp that gives varying views of Penone’s “Source of Light” and provides an experience that takes one on a voyage from the collective to the personal.

## a worthy work of art

“We are delighted to have master Giuseppe Penone’s iconic work, ‘Source of Light’ at the King Abdulaziz Center for World Culture,” said Ithra director Ali Al-Mutairi. “His poignant integration of ideas and materials located at the core of our built environment resonates deeply, while creating space for contemplation. In



Giuseppe Penone speaks during the unveiling of the Source of Light at the King Abdulaziz Center for World Culture (Ithra). The 90-foot tall artwork consists of three towering bronze trees that “grow” from the base of the Source — the physical core of the building — which marks the symbolic location near where Saudi Arabia first discovered oil in 1938. (Photo: Ahmed Al Thani)

our quest to foster cross-cultural exchange, this work offers visitors a unique and tangible example of global artistic expression.

“With the ‘Source,’ Penone has synthesized memory and nature in dialog with architecture to inspire our consideration of what has yet to be discovered. We are hon-

ored to present such a work to the world.”

Delivering remarks at the unveiling, Fahad K. Al-Dhubaib, general manager of Saudi Aramco Public Affairs, said this particular piece by Penone is a good fit for Ithra because it represents the idea that light reflects.

“I believe this is the fundamental mission of Ithra — to reflect, and to amplify the power of art, and creativity, and cultural understanding ... like a powerful lighthouse,” said Al-Dhubaib. “Aligned with Vision 2030’s objectives for a vibrant society, a thriving economy and an ambitious nation, Ithra is Saudi Aramco’s largest CSR initiative ... and the largest creative contribution to the Kingdom and its people. In a sense, Ithra is a lighthouse ... on seas of sand.

“I believe this masterful creation — in this unique venue — will place Ithra with renowned international museums such as the Tate Gallery in London, Centre Georges Pompidou in Paris, and New York’s MoMA, which have included Penone’s pieces within their permanent collections.”

## about the artist

Giuseppe Penone was born in 1947 in Garesio, Italy. He graduated from the Accademia di Belle Arti, Italy, in 1970.

Penone’s work has been included in several solo and group exhibitions. Recent solo exhibitions include “Retrospective” Centre Georges Pompidou, Paris (2004, traveled to CaixaForum, Barcelona); Museo d’Arte Moderna di Bologna, Italy (2008); Toyota Municipal Museum of Art, Japan (2009); Musée des Arts Contemporains du Grand-Hornu, Belgium (2010); Nelle mani - In the Hands Fondation De Pont, The Netherlands (2010); “The Hidden Life Within,” Art Gallery of Ontario, Canada

(2011); Centre d’arts et de nature, Parc du Château, Domaine de Chaumont-sur-Loire, France (2012); “Alfabeto,” Chapelle Saint-Martin-du-Méjan, France (2013); Château de Versailles, France (2013); Kunstmuseum Winterthur, Switzerland (2013); “Ideas of Stone” Madison Square Park, New York (2013–2014); “Breath Is A Sculpture,” Beirut Art Center, Lebanon (2014); “Prospettiva Vegetale,” Forte di Belvedere and Giardino di Boboli, Florence (2014); Musée Grenoble, Grenoble (2014); “Being the River, Repeating the Forest,” Nasher Sculpture Center, Dallas (2015); “Regards croisés,” Musée Cantonal des Beaux-Arts, Lausanne,

Switzerland (2016); Rijksmuseum, Amsterdam (2016); “Sculptura,” Museum of Modern and Contemporary Art of Trento and Rovereto, Italy (2016); “Anafora,” Reggia di Venaria Reale, Italy (2016); and “Matrice,” Palazzo della Civiltà Italiana, Rome (2017).

Penone co-represented Italy in the 52nd Biennale di Venezia in 2007. He was awarded the Praemium Imperiale by the Japan Art Association in 2014, and the McKim Medal by the American Academy in Rome in 2017. A permanent sculptural installation, titled “Germination,” has been presented at the Louvre Abu Dhabi in 2018. Penone currently lives and works in Paris and Turin, Italy.

# King Abdulaziz Center for World Culture excellence at Transform MENA Awards in Dubai

by Ithra Communications Team

**Dubai** — The King Abdulaziz Center for World Culture (Ithra) has been awarded across several categories for its excellence in branding at the Transform MENA Awards — receiving gold, silver, and bronze awards in the Strategy, Education Sector, and Content categories.

The event, which took place in Dubai recently, recognizes excellence and rewards innovation in branding across the Middle East and North Africa region. Ithra was nominated for the Transform Awards by leading U.K. agencies

— branding and marketing consultancy Prophet, and leading creative music agency Massive Music, respectively.

Ithra was nominated across three categories for Tanween, its successful Creativity Season event and the largest creative platform in the Kingdom, as well as for its audio brand.

Massive Music and Ithra won gold for “Best Use of Audio Branding” for Ithra’s audio brand. Prophet and Ithra earned silver for “Best Visual Identity from the Education Sector” and bronze for “Best

Creative Strategy” for Tanween, as well as receiving a nomination for “Best Development of a New Brand within an Existing Brand Portfolio.”

Commenting on Ithra’s success at the Transform MENA Awards, Rania Biltagi, Ithra’s head of Branding and Marketing, said: “At its core, the Ithra brand exists to demonstrate and recognize distinction, and as such, we seek to operate to a distinguished standard. We offer a space designed to provide memorable compelling experiences through every detail of our visitor experience journey, as we aimed to demonstrate through Tanween and our audio brand with the support and efforts of our innovative partners Prophet and Massive Music. It is truly an honor to have Ithra projects both be nominated and win by our agencies amongst other rep-

utable brands whose work invokes global standards of excellence.”

Hailed as one of the most prestigious awards events for brand communications, Transform MENA, originally launched in 2010, recognizes best practices in corporate, product, and global brand development work. Companies and agencies have their work benchmarked against peers rewarding excellence across the whole brand development process.

## the awards

- Gold — Best Use of Audio Branding
- Silver — Best Visual identity from the Education Sector.
- Bronze — Best Creative Strategy



# CDPNE student Faisal Aldossary earns recognition at top science competition



CDPNE student Faisal Aldossary earned the opportunity to participate in the world-renowned Intel International Science and Engineering Fair, and has also been awarded a number of honors as a student at the University of California-Berkely in the U.S.

by Training and Development

Faisal Aldossary, a talented young Saudi College Degree Program for Non-Employees (CDPNE) student, was among the selected high school students who recently won the opportunity to participate at the world-renowned Intel International Science and Engineering Fair (Intel ISEF) 2018.

Intel ISEF is the world's largest international pre-college science competition. Each year, approximately 1,800 high school students from more than 75 countries are awarded the opportunity to showcase their independent research.

The winners of these events go on to participate in society-affiliated regional fairs — from which the best win the opportunity to attend Intel ISEF.

## a planet named after him

Aldossary's research titled "Creating Two Novel Strigolactone (SL) Analogs (C-13 and C-26) for the Benefits of Combatting Parasitic Seed Infestation" earned second place in the Plant Science category. His research was highly recognized.

He also won a special award from the University of Science and Technology of China.

Aldossary was sponsored by Saudi Aramco as a CDPNE, joining the University of California-Berkeley, ranked amongst the top 10 schools in the U.S.

He recently received further recognition from the U.S. National Aeronautics and Space Administration (NASA), which named a newly discovered minor planet after him.

## spotlight



Recent Graduates of the Harvard Business School Young Leaders Program pose for a photo during their onsite training in Boston. The program is part of a partnership between Harvard Business School and Saudi Aramco. Other programs will allow many employees access to Harvard content. The content will be featured in Ras Tanura Leadership Center programs and through online delivery direct to employees' desktop.



Southern Area/Central Region Community Services recently paid tribute to Abqaiq resident Matthew Hope, who is the community's longest standing resident. He has been living in the Abqaiq community since he joined Saudi Aramco in December 1990, having moved there from Stockton-on-Tess, England. His family later joined him in 2001, where they have been living in the same house. "Matthew is a pillar of the community and holds an active role with the golf club self-directed group, where he sits as the vice president," the Abqaiq Residential and Recreation Services Division wrote in an email. "Throughout his time in Saudi Aramco, he has maintained an impeccable maintenance and safety history that is to be commended. We wish to thank Matthew for his continuous support and wish him and his family a pleasant future here in Abqaiq," the email concluded.



In collaboration with Saudi Cancer Society in the Eastern Province, two lung cancer sessions were conducted for Dhahran IT Division employees and contractors to raise awareness about lung cancer symptoms, treatment, and early diagnosis. Here, Dr. Endaira Bu-Khamseen presents to the group of approximately 40 on the dangers of radon in the environment. A critical part of the awareness sessions was to share and promote the stories of lung cancer survivors, caregivers, and families of those who have been diagnosed with lung cancer, which accounts for 27% of all cancer deaths and is by far the leading cause of cancer death among both men and women.



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Participants in the in-house developed CHE 152 Accelerated Development Program for Young Engineers pose with Jamil J. Al-Bagawi, chief engineer, Menahi M. Al Utaibi, RT Refinery Engineering Department manager, and Majed A. Al Jumah, Technical Services Planning and Performance Management Department manager. Sixteen process engineers from Saudi Aramco refineries in Yanbu', Riyadh, and Ras Tanura (RT) successfully completed the program. Twenty instructors from Engineering Services, joined by field engineers from RT Refinery, delivered the five-week training program.

A delegation of Saudi Aramco annuitants from the U.S. and Europe visit the historic city of Jiddah during the recent Expat Reunion. Officials from the Municipality of Jiddah and the Ministry of Culture received the 50 visitors, who toured a variety of historic sites throughout the western city famous for its old buildings, traditional souqs, museums, and monuments.





# Ithra movies

## in cinema

### Ithra Heroes Adventure

A collection of engaging children's animations that integrate science, technology, engineering, art, and math.

May 8, 9, 11, 13, 14, 15  
1 p.m.

### Predator X

After a startling discovery in southern England, scientists investigate the skull of what could be one of the largest marine predators ever discovered.

May 13, 14, 15  
9 p.m.

### Peter Pan: The Quest for the Never Book

To get the best of the day filled with fun and folly, the traditional Pichipock games have been organized for the Lost Boys, Native Tribes, Peter, Tinker Bell, and the Darling family.

May 13, 14, 15  
11 p.m.

### David Attenborough's First Life - Part 1

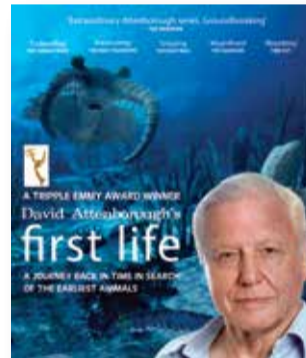
David Attenborough takes a journey back in time to discover how the very first animals developed on our planet.

May 9  
May 10, 11  
2 p.m.  
9:30 p.m.

### David Attenborough's First Life - Part 2

David Attenborough takes a journey back in time to discover how the very first animals developed on our planet.

May 1  
2 p.m.



## Energy Exhibit Theater



### Conquest of the Skies

Evolutionary story of flight from the very first insects to the incredible array of creatures, which rule the skies today.

May 10  
May 9, 11, 13  
10 p.m.  
1 p.m., 10 p.m.



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# the arabian sun

## Aramcon shares his passion for poetry at Dhahran Recreation Library

by Julie Scott

**Dhahran** — Playing with language is serious fun, and Scott Andrew Christensen, currently a career counselor with General Education Partnerships, recently showed young writers just how much fun it can be.

As part of a month-long celebration of "Poetry Month," Christensen taught a series of three poetry writing workshops for children and teens at Dhahran Recreation Library. "The Power of Poetry" and "Young Poets" workshops took place late last month.

### working with young people

Christensen is a published poet, author, and an experienced teacher and counselor with a passion for the writing and working creatively with children.

"What's so great about working with young people is that they haven't yet been reined in by strict parameters about meter and rhyming when it comes to poetry," said Christensen. "They are uninhibited, and that lends itself to some amazing brainstorming exercises and mind-mapping games that help unleash imaginations."

Organized by Turki Hazza, library coordinator with the Central Community Ser-

vices Department, the initiative was part of the library's mandate to deliver meaningful literacy programs for youth.

"The Dhahran Recreation Library provides many forms of interactive programs aimed at exposing literacy resources to a wide range of ages," said Hazza. "Promoting literacy in the context of creative writing and poetry workshops goes a long way to enhancing the learning environment to the youth of the Saudi Aramco community. We are most grateful to Scott for sharing his enthusiasm and expertise with our young patrons."

### teaching brainstorming skills

During each one-hour workshop, Christensen taught brainstorming skills and helped the young poets create mind maps to build on their own writing. He explained that writing and thinking creatively means that there is no end to what one can write about, whether it be a plant, a three-ring binder, or even a cat. They all can have a story in poetry.

Part of the workshop also included listening to established poets recite poems about the natural world and then recycling photos from old issues of library magazines to generate ideas.

"I like to incorporate images into these



Aramcon Scott Andrew Christensen teaches brainstorming skills during a one-hour workshop held recently at the Dhahran Recreation Library. Christensen, a published poet in his own right, helped young poets create mind maps to build on their own writing. *Thinking and writing creatively means that there is no end to what one can write about, whether it be a plant, a three-ring binder, or even a cat, he said.*

workshops. It makes yet another connection with the written word whereby the kids tap into their creative nature through connecting various forms," explained Christensen.

### about the author

Christensen published his first collec-

tion of poetry, *The Boundaries of Return*, after having a number of poems published in literary journals. These poems formed the heart for the book, which was printed by U.K.-based Red Hand Books in 2014. Many of the poems have been influenced by time spent in Saudi Arabia and Turkey.

"The title of the book is a reflection of my travels over the past two decades, like a migratory bird, which has a sense of its boundaries over thousands of miles, peering down for practical reasons, gazing up for inspiration," said Christensen.

The book is available to check out from the library.

Christensen is combining his Dhahran Recreation Library poetry workshop experiences with a University of Cambridge course he is currently undertaking in the hopes of offering a Community Education creative writing course in the fall of 2019.

"I want to continue to add to the literary life of the community, alongside getting a novel into shape for publication," Christensen admitted. "We have formed a small group of like-minded writers here at Saudi Aramco to give each other support and encouragement — the same support and encouragement Dhahran Recreation Library offers local youth."



## a moment of reflection

Alaa Al Othman captured this photo while visiting the Prophet's Mosque in Madinah last year. Al Othman used his Nikon D750 and the reflection of the mosque to create the powerful image. Al Othman lives with his family in Dammam and works in Dhahran as head of the Eastern Region Joint Ventures Portfolio Division. He has been with the company 22 years.