October – November 2022

SPE Review London

The official e-magazine of the Society of Petroleum Engineers' London branch

Sustainable careers: upskill and pivot

Also in this issue:

- SPE London Net Zero: Geothermal beyond the hype
- Young Professionals Summit 2022
- C-Level talks: Rani Koya
- Energy on Draft
- Celebrating our 4th Arkwright Scholar!
- The new SPE ICL Student Chapter committee

SPE SECTION EXCELLENCE *** AWARD *** 2020

50 YEARS

LETTER FROM THE EDITOR and SPE LONDON CHAIR

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ABOUT US

The Society of Petroleum Engineers (SPE) is a not-for-profit professional association whose members are engaged in energy resources, development and production. SPE is a non-profit professional society with more than 156,000 members in 154 countries, who participate in 203 sections and 383 student chapters. SPE's membership includes 72,000 student members. SPE is a key resource for technical knowledge related to the oil and gas exploration and production industry and provides services through its global events, publications, events, training courses and online resources at www.spe.org. SPE London section publishes SPE Review London, an online newsletter, 10 times a year, which is digitally sent to its 3000+ members. If you have read this issue and would like to join the SPE and receive your own copy of SPE Review London, as well as many other benefits – or you know a friend or colleague who would like to join – please visit www.spe.org for an application form.

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SPE SECTION EXCELLENCE *** AWARD *** 2020

In this issue

FEATURES

Photo by James Lee

Behind the Scenes: SPE Review Editorial Board

Elizaveta Poliakova, Editor in Chief

Elizaveta is a Reservoir Engineer at Trident Energy. She has an M.Sc in Petroleum Engineering from Imperial College London and a B.S. in Petroleum Engineering from the University of Leeds.

Elizaveta has been with SPE for more than five years. She was the President of SPE Imperial College Chapter and the President of SPE Leeds Chapter. Previously, she was also on the committee of SPE YP.

Ffion Llwyd-Jones

Ffion is a business editor and writer. She has extensive experience in writing and editing (digital and print), with international experience in technology, health, automotive and the environment.

Mark Beleski

Mark is an experienced engineer, with deep understanding of industry practices, trends and challenges. He is an Energy Loss Adjuster with AqualisBraemar, in London.

Shalom Amakhabi, Editorial volunteer

Shalom is a graduate gas transmission engineer with National Grid Gas Transmission and metering. She has an MSc in Petroleum Engineering from Imperial College London and a BEng in Petroleum and gas engineering from the Nile University of Nigeria. She has been an SPE member for 5+ years.

A big Thank You! to all the organisations that support the SPE London section

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Letter from the Editor and SPE London Chair

Dear SPE London Members and colleagues,

Welcome to the second edition of SPE London Review within the SPE year.

I am very proud to share that this October has been marked with SPE London Section welcoming our fourth Arkwright Engineering Scholar. Adrian Southworth has represented our Section at Arkwright Engineering Award Ceremony at the Edinburgh International Exhibition Centre – read more on **page 20**.

Maintaining the influx of new talent is key to the section's prosperity. I am happy to welcome the new committee of the SPE Imperial Student Chapter who have introduced themselves on **page 22**, and the SPE Coventry committee (SPE Chapter 6095: Coventry University (West Midlands, United Kingdom)) – stay tuned for their intros!

In addition, this publication features a fantastic C-Level Talk with Rani Koya, CEO of OGL-Geothermal, who walked us through her career and her experience of synergy between Oil&Gas and Geothermal Energy sectors on **page 06**.

The SPE London Net Zero Gaia committee provides a big value to our members by helping to adapt to a changing energy industry. In this publication, we have featured three insightful interviews with O&G professionals who have pivoted their careers into sustainability. Find the feature `Sustainable Careers: Upskill and Pivot` on **page 15**. On **page 09**, you will find a summary of the SPE London Net Zero webinar `Geothermal beyond the hype` where Geothermal Power and Heat opportunities are discussed.

This week, SPE London has also hosted two Technical Talks at Imperial College London:
– How do CEOs lead for success? Insights to boost your leadership skills - by Elizabeth Coffey
– Sidetracking with whipstocks: an efficient method for increasing your operational and asset value by Tom Emelander
Watch the recording here (LIVE: SPE London Technical Talks - November 2022 - YouTube) in case you missed it.

Please refer to **page 13** to read about the YP Summit 2022, a hybrid event organised by the Young Professionals from PESGB, SPE London, SPE Aberdeen and EAGE. Congratulations to all YP teams for the great work done!

As a Section, we are also co-organising a series of social events – `Energy on Draft` together with PESGB and EAGE. Read more on **page 12** and join us on 2 February, 2023 for the fourth event!

I would like to thank SPE London Board and their teams of volunteers for the continuous flow of ideas, support and energy.

Sincerely Yours,
Elizaveta Poliakova

NEWS DIGEST... NEWS DIGEST... NEWS DIGEST

New UK targets aim to boost decarbonisation projects

The North Sea Transition Authority (NTSA) has introduced a new cost-efficient target that is intended to free up more money for investment in the transition to net zero and energy security for the UK.

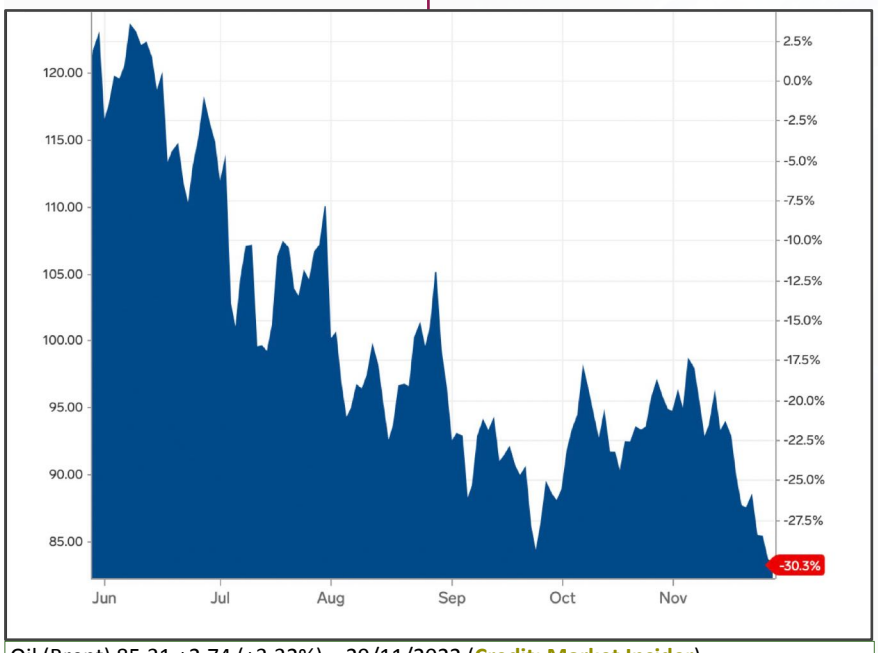
The NSTA is challenging the North Sea industry to achieve an additional 10% decrease (from £37 billion to £33.3 billion) in its total estimate for decommissioning redundant platforms, wells and pipelines between 2023 and end-2028.

Read more

Shell acquires the largest RNG producer in Europe

Shell Petroleum has entered into an agreement to acquire 100% shareholding of Nature Energy Biogas for nearly $2 billion. Denmark-based Nature Energy is a producer of renewable natural gas (RNG) and owns/operates 14 industrial-scale RNG, plants and an international development pipeline across Europe and North America. “Acquiring Nature Energy will add a European production platform and growth pipeline to Shell’s existing RNG projects in the United States," said Huibert Vigeveno, Shell’s Downstream Director. "We will use this acquisition to build an integrated RNG value chain at a global scale, at a time when energy transition policies and customer preferences are signalling strong growth in demand in the years ahead." Shell Petroleum is a wholly-owned subsidiary of Shell.

Read more



Oil (Brent) 85.31 +2.74 (+3.32%) – 29/11/2022 (**Credit: Market Insider**)

COP27 Summit Outcomes

COP27 ended with a historic 'loss and damage' fund applauded for its potential for vulnerable nations. However, the lack of any new commitments on cutting greenhouse gas emissions and phasing out fossil fuels in the Summit’s overarching agreement was seen as somewhat frustrating. UN Secretary General António Guterres expressed his disappointment, saying the final COP27 agreement needed a "giant leap" in climate ambition as the planet was still "in the emergency room".

Read more

Surge in oil prices

Amid speculations of OPEC+ nations' deepening supply cuts due to weakening demand, the price of oil has risen from its lowest level in almost a year. The member countries are set to meet in December to assess the output policy.

Read more

Passionate advocate of diversity

Rani Koya has more than 20 years' experience across Shell International, Hess and Tullow in a variety of technical, project management and executive management roles across Europe, Asia, the Americas and Africa.
She has led multi-billion dollar projects across the globe from unconventional shales in the US to oil developments in East Africa, has been the driving force behind several major acquisitions and was most recently Chief Petroleum Engineer for Tullow.
Rani is a Fellow of the Institution of Mechanical Engineers, a Trustee for the Oxford Food Hub and a Director of International Women's Forum. She has a degree in Engineering Science and another in Public Policy from the School of Oriental and African Studies.

Who is Rani Koya? Please tell us about yourself.
I'm an engineer with a background in public policy. I spent a few years working for the UK Government and the bulk of my career has been with the oil and gas business.

I'm a reservoir engineer by discipline and have worked on major projects on five continents. I've always loved the problem solving, creativity and geopolitics that the energy business demands.

How did you become the CEO of OGL Geothermal? Walk us through your career.
I started out with the UK Government, which was fascinating, working on science and innovation and regional policy. After some time, though, I felt that I was not using enough of my engineering skills and joined Shell International and was assigned to the Netherlands, working on the giant Groningen gas field and the associated underground gas storage. We designed peak shaving gas projects using high pressure compartments – they were remarkably valuable – and it was a great combination of reservoir engineering and supply management.

I went on to work in Malaysia and the US on many different projects – from shale projects and deep-water Gulf of Mexico to smaller fields in Latin America. After 15 years of working abroad, I came back to the UK and started working for Tullow as East Africa Development Manager, mostly on Uganda and Kenya.

After seven years, I left Tullow. It felt like time for a change and during lockdown was a great time to think about what next. I made contact with the current Chair of OGL Geothermal and he suggested I come on board as CEO and I haven't looked back. I have learned so much in the past two years in the role – it has been enormous fun.

The people the energy business attracts are some of the brightest and best anywhere and it can make for an amazing work environment.

You have worked with multi-national and independent companies across 20 countries. How did your leadership experience differ from country to country and across companies of different sizes?
I've lived and worked in many cultures and – it may be a cliché – but people are people everywhere. Cultural norms do vary greatly and being sensitive to them is very important.

I find that people are great when they are excited by what they are doing and feel part of something special. I am a passionate advocate of diversity and believe that leadership is very similar everywhere once people are united by doing something they feel is important.

You are the CEO of OGL Geothermal and a Board member of EnQuest. What can you tell us about balancing leadership positions in two energy industries?
The energy business is at a fascinating point – with the energy transition in full flow. There are many, many solutions for the industry to create, from geothermal power and heat (which is what I do at

Passionate advocate of diversity... continued

oil and gas infrastructure, CCS, abandoning fields responsibly (all of which EnQuest does). I'm proud to be part of two such capable organisations that are looking to the future. There is a great deal to do, and I believe that nobody is better positioned than energy professionals to help with energy transition – we have no excuse for not trying.

The two roles require very different skillsets and, as the saying goes 'a change is as good as a rest'. In my non-executive role on a Board of EnQuest it is much more about taking a step back and thinking forward about energy transition; I am also involved with the work of the Subsurface Department.

As a CEO of OGL Geothermal, it is much more about being in the cut and thrust of company business – raising financing, making deals, and building relationships.

Both roles are very different, but very fun!

You are also a Board member of the International Women's Forum UK and a Board Trustee at Oxford Food Hub. Tell us a little bit more about your responsibilities.

The Oxford Food Hub is a local food security organisation – and I have helped recruit a new Chair and new CEO this year to create space for expansion and growth. Food security is a huge issue in the UK and demand is growing rapidly, and the OFH is keen to ensure that we do everything we can to support the community at this critical time.

It's great to be part of such a tremendous organisation. The OFH supports 200 different charitable organisations that serve the community with millions of meals on an annual basis. The IWF is a global organisation, and I work with them to support diverse and inclusive leadership.

I was surprised by how many skills that we take for granted in the Oil&Gas sector are very welcomed in other organisations.

What message would you like to share with young professionals who are about to join the oil & gas industry?
How would it differ for those who would like to transition away from it?

I suppose I would say that the skills you learn in the oil and gas business are key for new energies, too. This includes the way energy markets work; the way energy is stored; demand and supply management; pricing, and most importantly of all, doing business in a very international, very regulated arena – these are great things to learn.

Working in an international business across boundaries is crucial for the energy business going forward. Although green energy is usually thought of in a domestic context, real energy security and supply comes from international resilience. I have seen many individuals move from oil and gas to renewables and I see a lot of synergy between the two sectores.

I believe that oil&gas is picking up pace with investments in the energy transition, creating more opportunities for both groups of young professionals – whether you are a part of a large organization and able to transition within it or starting your own!

Have you observed any changes in challenges that are specific to operations over the past decade? If so, what key themes have you seen emerge and what new trends do you anticipate in years to come?

Operations are always challenging – perhaps nowhere more so than in the demanding oil and gas business. Ageing infrastructure and a naturally hazardous business needs to be managed using outstanding judgement and well-worn experience. It's not going to get easier in these environments and we should recognise the daily challenges involved in meeting our energy needs – in the UK and elsewhere. I also see a lot of new infrastructure needed – wind turbines, geothermal plants, late life oil&gas fields – need really strong operational capabilities but with skills that can be easily transferred.

In these challenging times it is more important than ever that SPE members continue to inspire and support each other locally, regionally, and globally.

SPE has evolved to provide unparalleled insights, shared expertise, life-long learning and community strength to fuel the success of our members and the future of the industry. As a member, you are part of that!

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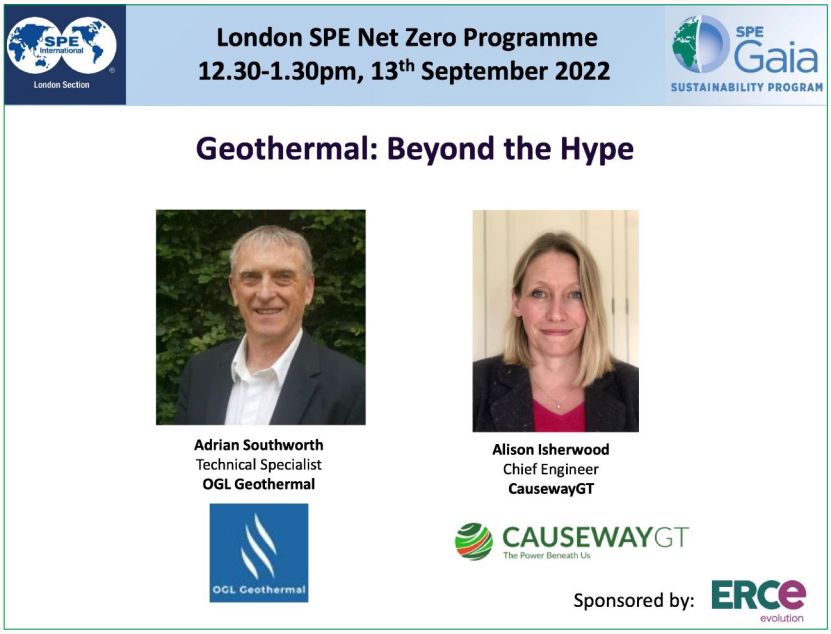
SPE London Net Zero: Geothermal beyond the hype



This article provides a summary of a recent webinar session discussing Geothermal Power and Heat opportunities.
The role that geothermal energy can play in a broader energy landscape was the essence of a recent SPE London Net Zero webinar event where the hype around geothermal was explored.
Two panellists provided their views on the opportunities of geothermal heat and power to support a more diverse energy source both within the UK and internationally. The heat topic was led by Alison Isherwood and the power topic was led by Adrian Southworth.

The webinar touched on a range of themes to guide the discussion. However, within only an hour it was not practical to dive too deeply into the individual topics, thus leaving the door open for future webinars involving other players in the geothermal ecosystem.

Please do get in touch with us if there are particular geothermal topics you would like to see covered in the future or that you would like to present.

Here are some key highlights from the discussion. Please note the recording can be found here: *https://www.spe-london.org/spe-net-zero-virtual-programme/*

Why now?

Energy costs are increasing, energy security concerns are focusing efforts on local sources, and perhaps most importantly, geothermal is a clean and largely renewable resource which is currently under utilised. The energy transition will require all clean energy sources to be scaled up and used in an integrated fashion.

The good news

There is plenty of good news out in the media about how geothermal energy is making inroads into the energy industry both from the heat and power perspectives – many big businesses are engaged with transforming their heating needs to a geothermal base, such as IKEA. North America has seen a number of power developments get off the ground through financial and offtake support.

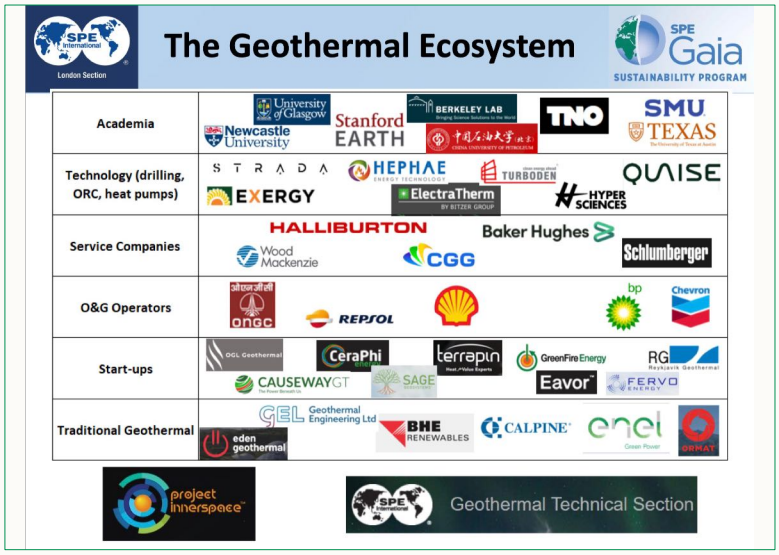
In both the heat and power category, there

SPE London Net Zero: Geothermal beyond the hype... continued

are more opportunities to expand the role of geothermal and it was discussed that use of geothermal energy in district heating and ground source heat pump systems, which do not require high temperatures, is really well established in many countries already.

The Geothermal ecosystem

This involves a wide range of players covering academia, technology providers, traditional oil and gas service companies and operators, and established geothermal businesses.



However, there is a growing number of start-ups looking to leverage their skills in sub-surface understanding, well design and intervention and project management.

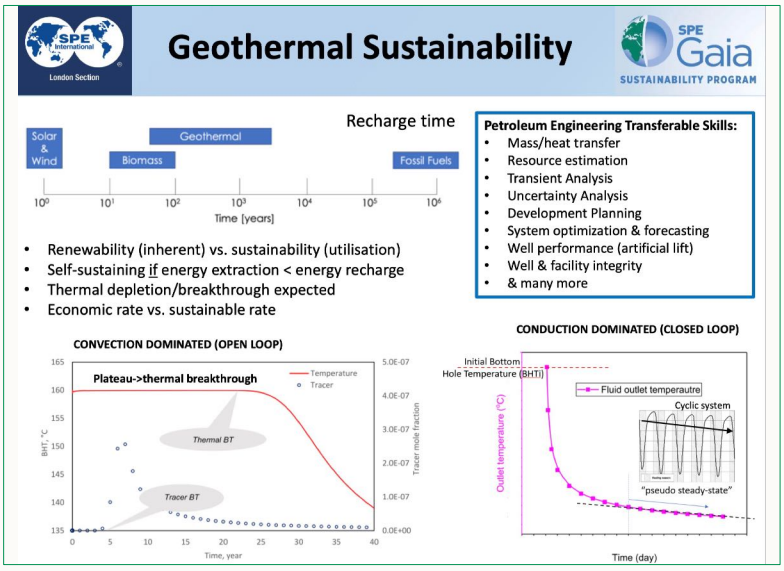
Additionally, there are signs that the financial world is also taking an interest in geothermal where they value long term stable cash flows but recognise returns are generally lower than oil and gas projects.

Also, be sure to check out SPE's very own new geothermal technical section!

Transfer of skills

There are considerable crossovers between the oil and gas industry and that of geothermal. In fact, except for a few specialist areas the role of subsurface geoscientists and engineers could be identical between both sectors of the energy industry. With greater adoption of geothermal as an energy source we could see many oil and gas professionals transferring over to the geothermal sector.

Sustainability of energy provision from geothermal systems



This needs to be modelled and monitored for every project despite long-term high enthalpy provision in places such as Iceland and Turkey. A great place for reservoir engineers to apply their transferable skills!

Cooling looks different in convection dominated (open loop) systems vs. conduction dominated (closed loop) systems.

When considering sedimentary geothermal specifically the relationship between injected cooler water and the reservoir water is still in the modelling phase.

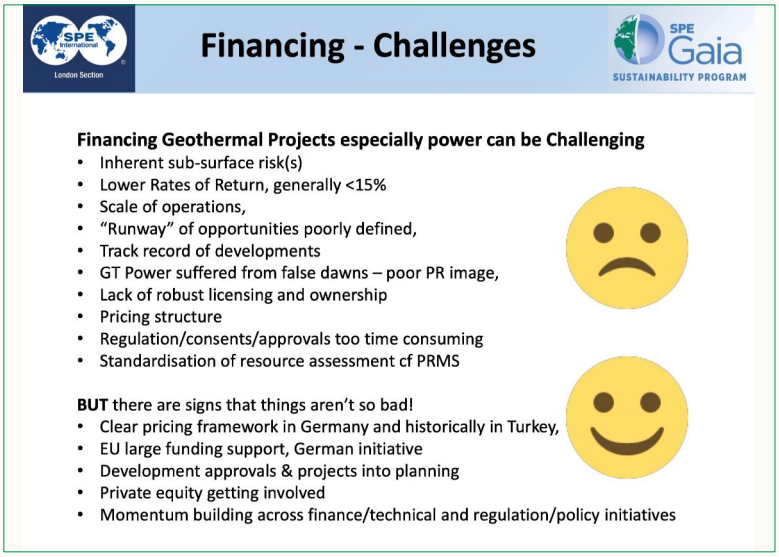
SPE London Net Zero: Geothermal beyond the hype... continued

These early-stage assessments are indicating that reservoir cooling could be possible in the 25-year time frame with something like a loss of 10-20%
of energy.

Infrastructure

The role that redundant oil and gas infrastructure could play in supporting geothermal energy development provides an opportunity to speed up assessment of geothermal potential.

One of the main benefits would be access to well specific data and also a reservoir access point either directly or indirectly through well interventions. With lower returns, geothermal cannot afford to acquire as much appraisal and surveillance data as oil and gas. Using oil and gas information could speed up geothermal decision making by reducing the risks to investment capital.



Financing

There have been some notable investments in new geothermal projects in North America which is encouraging and shows that under the right circumstances financial markets and institutions will invest in geothermal.

Nevertheless, despite the alleged capital within the financial industry waiting to be deployed in renewables, geothermal does come up against some funding challenges especially with regard to risk and the likely lower returns.

The European-wide 'Green Deal' and the recently announced IRA initiative in the USA do demonstrate that policy makers are attempting to create an environment where investing in renewables is attractive. The pricing framework set within Germany for renewable power development is a good example of what needs to be done to attract developers into this area.

So finally, can geothermal really be exploited everywhere?

For heat provision, certainly yes, it can be part of energy provision anywhere. The proliferation of GSHPs in cool rock countries such as Sweden proves this and to a large extent is due to historically lower electricity prices there than gas prices, making heat pumps more viable.

There is also clear potential to expand into sedimentary and hot rock geothermal in many parts of the world. Power will most likely remain concentrated in those areas that have a much higher geothermal gradient and can generate steam, keeping efficiencies high.

In conclusion, geothermal is not the answer to every energy problem but certainly deserves its seat at the renewable table alongside hydro, wind and solar.

PESGB, YPs, EAGE and SPE: Energy on Draft

LAST EVENT:
3RD NOVEMBER 2022

PESGB YPS. EAGE. SPE

NEXT EVENT:
2ND FEBRUARY 2023

ENERGY ON DRAFT

On 3rd November PESGB Young Professionals (YPs), EAGE and SPE hosted the next installment in the London Energy on Draft joint society networking series.

This was the third event held in 2022 where we met at the Star Tavern, Belgravia. We were thrilled to see so many attendees returning and bringing along peers.

For those who are not familiar, Energy on Draft is a quarterly networking event aimed at professionals in the energy industry.

Our next event in 2023 will be held on Thursday 2nd February. Head to the PESGB Young Professionals Linked In page for more information.

Young Professionals Summit 2022

The Young Professional Summit is an annual event organised by the YPs from PESGB, SPE London, SPE Aberdeen and EAGE. This year's event on 17 November was hybrid, offering online daytime panel discussions with renowned names in the energy industry and evening networking sessions in both London

The event's daytime focus was on powering soft skills and knowledge sharing from experienced professionals. The morning started with Aruna Manie (from Harbour Energy), who set the scene for the day by talking about the importance of energy security, the challenges of the energy transition, concepts such as energy poverty and her career path from a geologist to a finance/management role.

After the Keynote presentation, Carla Riddell (from Bioenergy Infrastructure Group), Sean McQuaid and Ron Daniel (TIDE) discussed the importance of Diversity, Equity and Inclusion (DE&I) in the energy industry, and the relevance it has in attracting and retaining talents, a paramount aspect related to the aimed transition

Development bites

Following the DE&I panel, the development bites took place, together with a new concept developed specifically for this year's online event. The arrangement consisted of having two different rooms where each one of the four speakers had 20 minutes to discuss Entrepreneurship, Leadership, Communication and Project Management topics.

For the Entrepreneurship session, the Summit hosted Nathan Biddle, Director and Co-Founder of Origem Energia, one of the fast-growing juniors onshore in Brazil. Nathan talked about his early days in oil&gas as a drilling engineer, working for a major company, and the pathway from leaving a big corporation and starting a new company from nothing.

In the Leadership room, the event welcomed Phil Kirk, former Europe CEO and President of Harbour Energy. With vast experience in the UK North Sea, Phil talked about his path from a finance role in an oil gas firm until his earlier steps with CH4 Energy, and then the successful growth journey at Chrysaor, before becoming Harbour.

Nick Steel (Acrometis UK) was the speaker on the Communication panel. After a successful technical career that led Nick to management roles, he pursued an MSc in Coaching and Behavioural Change at the Henley Business School and his panel focused on the importance of good, clear, and concise communication nowadays, especially for future leaders in the industry.

Closing the development bites, Iain Phillips from Energy Transition Advisory Limited explored the challenges of project management despite improvements in technology in recent years.

Afternoon sessions

After the lunch break, the YP Summit greeted Sir Mark Moody-Stuart, ex-Chairman at Shell and Board Director

Young Professionals Summit 2022... continued

for top global firms in the energy and finance sectors. Having started his career in the 1960s Sir Mark took the opportunity to talk about key changes that he has seen in the energy landscape, the challenges of the energy transition, and the opportunities it brings to geoscientists and petroleum engineers. He also explored the hot topic of energy security, which was the focus of Richard Norris's following presentation.

Remotely connected from Montreal in Canada, Dr Norris (from Pandreco Energy Advisors) explored how geopolitics currently affects the global markets and the energy industry. Using the energy trilemma as a foundation of his presentation, Richard explained how fossil fuels have contributed to human comfort, especially in western society, and posed challenges and key risks linked to the energy transition. Richard brought to the debate years of experience both in technical and finance roles and his session had a significant level of discussion.

To wrap up the day, a panel on The Future of Energy took place with Professor John Underhill (from Aberdeen University), Chris Banks (from SLB) and Toby Lockwood (from Clean Air Task Force). Topics such as energy transition, CCUS, carbon removal techniques, and electrification were central and while challenges were posed to what might be a longer transition than many expected, the panellists explored opportunities for young professionals in the energy industry's future.

Sharing views and networking

The evening opened space for face-to-face interactions, when more than 30 attendees in London and around 25 attendees in Aberdeen, all from different backgrounds, enjoyed an opportunity to network and share their views on the topics discussed during the YP Summit 2022.

The organisation committee of the 2022 Young Professionals Summit would like to once again thank our sponsors, ERCE (Platinum), Harbour Energy and CNOOC (Gold), and SLB (Bronze) for their support, which shows the commitment of these organisations in promoting key topics such as energy security, energy transition, and DE&I with the industry's young professionals.

Without a doubt, the energy industry has faced a plethora of challenges and we are keen to focus the YP Summit on the industry of the future, equipping the younger generations of geoscientists and engineers with the essential tools that they will need to contribute to a dynamic energy industry. Today's young professionals are the future of tomorrow's energy industry. Our scientists and engineers will be the bridge between decades of knowledge and expertise, and the required knowledge for the methodologies and technologies of the future.

See you at the 2023 YP Summit!

Sustainable careers: upskill and pivot

One of the main goals of the London SPE Net Zero Gaia committee is to help the membership adapt to a changing energy industry. With this in mind, the committee has launched an initiative called 'Sustainable Careers'. Useful information, insights and advice are being gathered from knowledgeable individuals across the industry and beyond, on topics such as evolving education opportunities, recruitment trends, energy transition business models, and career pathways. Short interviews based on the gathered insights will be available as a growing resource on the *SPE London Sustainable Careers* webpage.

Instalment two: Upskill and pivot

In this instalment, we bring you three insightful interviews with O&G professionals who have purposefully pivoted their careers into sustainability, GHG accounting, geothermal and CCS using shorter courses to upskill along the way.

Rebecca Clayton
Business Sustainability Management course, CISL

Trey Meckel
Business and Climate Change course, CISL

Ellen Mitchell
ISO 14064-1,2,3 GHG Accounting courses

Rebecca completed a Business Sustainability Management course with CISL

Rebecca has 20 years of energy sector experience gained both as a team member and leader of successful multi-disciplinary, multi-national teams tasked to find and exploit oil & gas resources. Working in mid-size and small E&P company environments delivering company strategies and development targets. Recognising the importance of the energy transition, ESG and its impact on energy-focused companies, Rebecca completed a Business Sustainability Management course with CISL (Cambridge Institute of Sustainable Leadership, University of Cambridge) and delivered a client focused Business Sustainability Plan for a London Stock Exchange main-market listed E&P company. Since then, I have moved into sustainability strategy and execution in the oil and gas sector.

Rebecca believes successful project delivery includes developing people, encouraging innovation and deploying expertise and skills effectively, promoting communication and an open-minded team environment. Strong technical skills in reservoir development and modelling, project management, operational support, asset valuation and risk assessment.

Why did you choose to do the University of Cambridge Sustainability Management course? Tell us a bit about the course.

I was looking for a new direction, being disillusioned with the oil and gas sector. I didn't want to fully retrain in a technical skill but wanted to move towards a sustainable role, encouraging companies to make more of a positive impact. I was working as a management consultant in an advisory capacity and it became apparent that there was huge growth potential in helping companies drive towards delivering a more positive, sustainable culture. I had

Sustainable careers: upskill and pivot... continued

listened to a couple of free training courses before committing to a paid course. The course with the University of Cambridge was recommended and fitted around my job. The objective of the course was to create a sustainable business strategy that aligned with the company's objectives. The course covered a broad range of industries, starting with two modules on why there is a need to move to more sustainable businesses and living. The lecturers were very knowledgeable in their field and were able to provide background reading for most sectors.

What were the biggest takeaways from the course and did it influence the direction of your career? Did your decision to focus on sustainability come before or after the course and what was the primary driver for the change in direction?

The course was very pragmatic, and a big take away was to not waste time and energy on businesses or people that are completely closed off to evolving into a more sustainable way of working and living. The company I was consulting for at the time put the sustainability strategy in the bin. It was a good learning for me in the sense that suggestions and ambitions in the sustainability space need to be targeted to the audience, particularly if the audience isn't of the same hearts and minds. I left the company not long afterwards and found a company looking to grow its sustainability strategy. I have always been interested in sustainability, so the changing appetite for sustainable businesses has resulted in many opportunities to work in the sector, which has allowed me to transition to a completely different role.

What is your current role? What is similar in your current work to your previous roles in O&G and what is different? What are the most challenging and most interesting aspects of it?

I now work as Sustainability Lead for NEO Energy, a UK offshore oil and gas producers. This is my first role in this discipline and in the UK. I trained as a geologist and moved into subsurface technical roles and later into strategic advisory for the oil and gas sector working in the Middle East and onshore Europe. Having extensive experience in the industry helps with being able to talk the same language, engaging with the technical aspect of the business and contributing to the strategy within a relevant business context.

The role differs significantly from previous jobs as it covers such a wide remit across the company, from environmental impact, decarbonisation, waste management, social aspects of the culture and stakeholder engagement and, to some extent (but less so, in this role), the governance. Obviously, this cuts across many different disciplines and business units, so ensuring engagement with the correct stakeholders is a key to success. There are technical projects that are closer to my original skill set but delivering sustainability is also continual improvement so managing my own expectations around what is achievable in a given time frame has been a challenge. Working within the UK and has been a learning curve with respect to UK legislation and regulation but it has also opened the door to people I would never have had the opportunity to meet. A large part of this role involves taking stakeholders on the same journey, and it's very satisfying when you see someone who was previously sceptical changing behaviours.

Any advice for those in O&G who want to work in sustainability? Is formal training a good route in?

Formal training isn't a prerequisite but moving to a new company without any experience may be challenging. An alternative route in would be demonstrating an interest and a general understand across the industry should help. Reading around sustainability topics and keeping up to date with technologies and industry strategies' is also beneficial. It's also worth remembering even if you have a great idea, it may not be accepted as readily as expected so ensure the idea is tailored to the audience and business strategy. Recently, I've had people seconded into my team, part time, from commercial and business development functions as they have expressed an interest in the projects. If there is a sustainability team in your current company, it is always worth a conversation to find out what they are working on, or suggesting a project that you think would add value that you could deliver.

Sustainable careers: upskill and pivot... continued

Trey completed the University of Cambridge Business and Climate Change course

Dr. Lawrence (Trey) Meckel is an experienced leader in the global energy industry, and an expert in alternative energy, decarbonization, and oil and gas. During his career, spanning more than 30 years, he has identified, matured, commercialized, and operated energy projects in Australia, SE Asia, North America, South America, and Africa.

He began his career with Shell and Woodside, where he developed expertise across oil and gas exploration, production, and R&D. From 2016-2021, he was Vice President of Global Exploration and Geosciences, a member of the Risk Management Committee, and a founding member of the Sustainability Leadership Committee for Latin America's largest private oil and gas company.

In 2021, Trey founded Monteverde Energy, a consultancy which advises on and manages alternative energy and decarbonisation projects, including Carbon Capture and Storage (CCS). He is a Senior Consultant to CO2CRC, Australia's leading CCS organization, in which role he provides business-critical services to various Australian projects. In addition, Trey is involved in geothermal projects in Western Australia and the USA, and is the co-founder of Groundbreaking Energy, a geothermal exploration company actively acquiring leases in Australia. He is Secretary of the Australian Geothermal Association. Trey is also a tutor at the University of Cambridge (UK) Institute for Sustainability Leadership (CISL), training senior executives across multiple sectors in net-zero strategies.

Trey has a PhD in Earth Sciences from the Swiss Federal Institute of Technology (ETH-Zürich), a Master of Arts in Geology from the University of Texas at Austin, and a Bachelor of Arts in Geology (Honors, Cum Laude) from Williams College (USA).

Why did you choose to do the University of Cambridge Business and Climate Change course? Tell us a bit about the course.

When I began my career, I never intended to work in oil and gas. My original idea was to work in hydrogeology or environmental geology after receiving my geology PhD. Then, 25 years later, I found myself a long way down a career path I hadn't expected. It was lucrative and intellectually rewarding but it wasn't what I'd thought I would be doing. So, in early 2021, I decided to transition my career to sustainability and alternative energy. I sought advice from numerous colleagues, one of whom recommended I consider the CISL Business and Climate Change course. It met my career objectives, offering me the opportunity to learn about climate change in a business context from a very different perspective from what I'd been exposed to previously in my career. I was particularly attracted to the combination of business imperative to achieve Net Zero.

What were the biggest takeaways from the course and did it influence the direction of your career? Did your decision to focus on decarbonisation work come before or after the course and what was the primary driver for the change in direction?

The primary driver for changing direction in my career was that I wanted to change how oil and gas addresses the energy transition. Earth scientists are integral to the transition, and I wanted to influence how it will happen. On the course, I met many leaders who had similar stories to my own. Their thinking raised my aspirations. Tutors, peers, and mentors across sectors were all influential.

Although my decision to move towards decarbonisation and sustainability predated the course, their support and their insights solidified my desire to transition my career to seek ways to decarbonize global energy. The biggest takeaway from the course – for me – was that there are an enormous number of ways for us all to impact sustainability, and there are many people from whom we can all learn. Decarbonising is a collective effort, which requires us to recognise the many ways we can all contribute to making necessary changes.

What is your career focus right now vs. your long term aspiration? What is similar in your current work to your previous roles in O&G and what is different? What are the most challenging and most interesting aspects of it?

These days, I am working on sustainability, carbon capture and storage (CCS), and geothermal energy.

Sustainable careers: upskill and pivot... continued

The space is enormously exciting, with an incredible diversity of people working to make Net Zero happen. There are many geoscientific and engineering skills that make the transition easier, but one needs to consider his or her specific goals.

Geothermal and CCS are not as simple as 'producing hot water' or 'turning old wells around' although it may seem that way at first blush. My greatest learning is that people who have been involved in those spaces for years will welcome enthusiastic, proactive collaborators, but we cannot be arrogant about our understanding. The sciences are different, despite certain similarities.

Any advice for those in O&G who want to contribute to decarbonisation, either specifically in geothermal or CCS or more generally?
Be open to collaboration - you cannot imagine how many excellent and brilliant minds are looking for your contribution, whether in agriculture, mining, building, energy, banking, finance, medical supplies, small business, or something else entirely. To be clear, though, there are a lot of talented scientists and engineers doing the same thing, and everyone wants to contribute to Net Zero, so seek out your best collaborators and figure out what excites you. Consider what the critical success factors are, and where your skills meet those requirements. Be persistent, especially when your skills don't 'seem' to match expectations. Be sensible – spend 6-36 months learning about whichever field (geothermal, CCS, hydrogen, etc.) you think you want to do. Be as serious about those fields as you were about O&G. Train yourself – don't expect someone else to do it! Expect less money – and be satisfied with different rewards. Be honest about your intentions.

Ellen completed the ISO 14064 courses

Ellen has six years of experience working as a geoscientist with ERCE including project management within the audit group, guiding multi-disciplinary teams including facilities and economics. Ellen joined ERC Evolution as she is passionate about the energy transition and working towards a low carbon future. Ellen holds an Masters in Earth Science from the University of Oxford and is a CSA certified GHG emissions verifier and validator. She is an active participant in the wider geoscience community as a Fellow of the Geological Society of London and has been a visiting lecturer at Imperial College London.

Why did you choose to do the ISO 14064 courses? Tell us a bit about the courses.
When someone says ISO 14064, it's not something you immediately jump at! However, the topics covered are both interesting and relevant. The aim of the course is to teach anyone who is interested, across any industry, all about greenhouse gas emissions and how to quantify them.

Prior to taking the courses, I worked exclusively as a geoscientist on oil and gas projects. In my university days, my area of study was in climate science, so GHGs and their effect on the climate have always been an interest of mine. The ISO courses took me back to my early specialisation and allowed me to apply it in a practical sense which I've loved.
The course is split into three parts. Part one explains the quantification and reporting of greenhouse gas emissions and removals, and introduces the concept of 'Scope 1, 2 and 3' emissions. The scopes categorise the emissions into three different buckets to determine whether they are a companies' 'direct' or 'indirect' emissions. For example, direct emissions are those which a company physically generates (e.g. combustion of gas), and indirect are those which are the responsibility of someone in the greater supply chain of that company (e.g. air travel).

The next course teaches you how to quantify, monitor and report emissions for reduction or removal projects. The focus is on learning about developments which generate carbon credits, like planting trees or building a renewable energy facility as opposed to a new coal plant. The media have brought topics like emissions and renewables much more clearly into the public consciousness in recent years, and terms like 'greenwashing' have prompted examination of whether certain initiatives actually help. I really enjoyed learning about how these things should be done, and done correctly.

Sustainable careers: upskill and pivot... continued

The third part of the course taught us about verification and validation of greenhouse gas statements. Translated, this is the process of how third-party auditors can check if companies' emissions statements are correct, and whether the reduction claimed by a project developer is feasible. It is through these audits that any erroneous or optimistic calculations by companies can be wheedled out. Without this independent check, the industry would certainly suffer escalations in accusations of greenwashing and the public would likely lose faith in emissions reporting and reduction projects.

What were the biggest takeaways from the courses and has it influenced the direction of your career? Did your decision to focus on decarbonisation work come before or after the course and what was the primary driver for your change in direction?

The main takeaway I'd say was how different carbon accounting is from a science. With geoscience, most of the governing principles are set in stone (oops!). However, the rulebook for emissions is open to change. On top of that, local regulation may mean there are deviations from the ISO guidance. The 'right' way of doing things is very fluid and dependent on the thinking at the time, so there is a requirement for constant learning and keeping on top of the latest developments in the area.

It has definitely influenced the direction of my career. I have had the opportunity to work on a number of projects centred around quantification, forecasting and verification of greenhouse gas emissions and have a skill set which is quite a large deviation from my original area. I'd decided I wanted to work on decarbonisation prior to taking the courses as I realised the need for the phase down of fossil fuels and wanted to help with that transition. I was previously researching carbon capture and storage (CCS) as I saw that as the clearest way to apply my geoscience skills in the decarbonisation space. However, I didn't anticipate the skills overlap and opportunity to move into emissions accounting.

What is your current role? What is similar in your current work to your previous roles in O&G and what is different? What are the most challenging and most interesting aspects of it?

My current role as a Managing Consultant splits my time about 50 /50 between CCS and greenhouse gas accounting projects. The day-to-day format of my current to past role in O&G is very similar - I am still working on energy projects for clients and so there is a lot of overlap with the structure.

The most challenging, as well as interesting, part of my new role is that I now need to invest extra time in learning new concepts in order to complete the projects in CCS and emissions. Previously I could easily pick up and finish a project without doing any reading outside the content provided by the client, but now I almost always need to review the newest guidelines or published papers on the subject.

Any advice for those in O&G who want to contribute to decarbonisation, either specifically in greenhouse gas accounting or more generally? Any other courses you might recommend?

I think there will be many opportunities, as decarbonisation will need to be integrated into every project going forward. You don't have to have a role specifically in sustainability to contribute. Ensuring the project you are working on selects the lowest emission pathway for development and, going further, whether it may be a suitable candidate for carbon storage at end of life are a couple of ways. Having project teams understand greenhouse gas accounting will allow them to be better informed when making these choices.

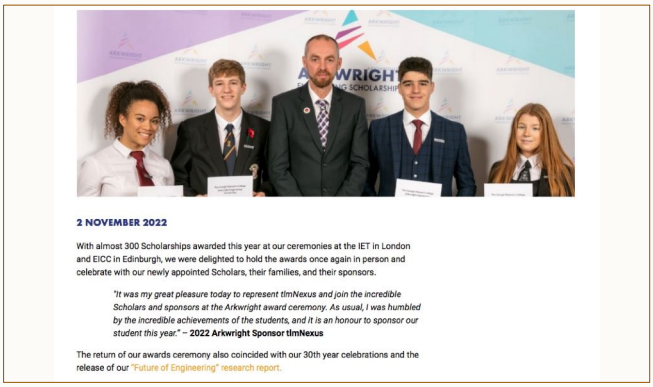
For those in O&G who wish to pivot to working solely on decarbonisation, it is easier than you may think. The skill sets have a lot of overlap and don't let a lack of qualifications in that area put you off. To be an engineer takes a whole degree worth of studying, but you can get to grips with the basis of a lot of roles in greenhouse gas accounting within a few weeks.

There are many courses out there that can help with a general understanding for those who are curious, or act as qualifications for people wanting to change role. For those who want to broaden their knowledge, a lot is freely available and accessible. EdX has some fantastic courses for free, so I'd say if you are thinking about making a change then that is an excellent first stop. Then, if you are serious about changing your role and moving into greenhouse gas accounting the ISO courses are very good, as are those given by the Greenhouse Gas Protocol.

SPE London Celebrates its 4th Arkwright Scholar!

It was a great pleasure to represent the SPE London Section at the Arkwright Engineering Scholarship Award Ceremony on 21st October at the Edinburgh International Exhibition Centre, where we welcomed our 4th Arkwright Engineering Scholar into the SPE London cadre.

Every scholar was a worthy recipient of the Scholarship award and the SPE London scholar was no exception. I look forward to the section supporting them through their A-level studies.



2 NOVEMBER 2022

With almost 300 Scholarships awarded this year at our ceremonies at the IET in London and EICC in Edinburgh, we were delighted to hold the awards once again in person and celebrate with our newly appointed Scholars, their families, and their sponsors.

"It was my great pleasure today to represent tlmNexus and join the incredible Scholars and sponsors at the Arkwright award ceremony. As usual, I was humbled by the incredible achievements of the students, and it is an honour to sponsor our student this year." – **2022 Arkwright Sponsor tlmNexus**

The return of our awards ceremony also coincided with our 30th year celebrations and the release of our "Future of Engineering" research report.

There was a great interest in developing careers in the aerospace and motor industries, although not so much within the energy industry. So, from an energy-industry perspective, we will need to work hard to be attractive to this significant engineering talent of the future.

Speakers

The award ceremony was supported by three engaging speakers, who all endorsed the value of the Arkwright Scholarship program and congratulated the scholars on their achievements to date, but with a note of caution that hard work lies ahead if they are to fulfil their engineering ambition(s).

Air Vice Marshal Ross Paterson – RAF
The role of engineering & the opportunities in the 21st Century airforce as it adjusts to the evolving threats to security and the move towards pilotless aircraft!

Melanie Bryce – SSE Network
Bringing power to all communities in a the most effective manner but with an eye on the increasing expectation that power production will be based on renewable resources.

Andrew Sheddon – Sports Car Entrepreneur and Arkwright Alumni
Championing engineering skills in the development of electrically powered sports cars to rival the well known brands.

Arkwright Engineering Scholarship Status

The Arkwright Engineering Scholarship aims to support exceptionally talented students (16-17 years old) who show a deep interest in following an engineering career. The SPE London Section aims to highlight the engineering careers within the evolving energy industry from the traditional choices to those that will support the energy transition.

Arkwright Engineering Scholarships is part of The Smallpeice Trust - an educational charity that inspires young people to pursue careers in science and engineering through events and workshops.

For over 50 years, The Smallpeice Trust has been giving young people everything they need to fuel their passion for engineering.

The Arkwright Engineering Scholarships programme is the most esteemed scholarship scheme of its type in the UK with over 6,000 Scholarships awarded to date.

With the support of our 4th scholar, we are contributing to the increasing diversity within the Arkwright Scholar awards. This year, the ratio of male to female scholars stands at 60/40% respectively and the number of scholars selected from state schools is now approaching 70%.

The Smallpiece Trust under which the Arkwright Engineering Scholarships sit has recently issued its report on the *Future of Engineering 2022*, which I encourage

SPE London celebrates its 4th Arkwright Scholar... continued

anyone within the engineering community to read: *https://www.arkwright.org.uk/downloads/research-report---single-page-spreads.pdf*

The three important conclusions

Skills shortages will continue.

Drawing engineering talent from all sectors of the community is essential.

Skill sets need to broaden from the central technical skills with communication, coding and digital skill becoming increasingly important.

More support is needed

With the support of our members and our sponsorship partners, the Section aims to maintain its commitment to the Arkwright Engineering Scholarship program. *https://www.arkwright.org.uk*

To ensure the success of our continued commitment we still need more partnership support so, if your business has a desire to support young engineering talent, then please contact Adrian Southworth via email *oleumventures@icloud.com* to discuss.

SPE ICL Student Chapter new committee

Being part of SPE International and SPE London Section, the Student Chapter at Imperial College London promotes and empowers the next generation of experts in the energy industry. The student chapter organises online webinars, technical events, and seminars at Imperial College, hosting industry experts from all over the world and providing networking opportunities for students.

Along with social activities and soft skills enhancement lectures, the Student Chapter also works on strengthening engagement with the larger SPE community, through collaborative events with different student chapters.

SPE Chapter Objectives

Organise and raise funds for local and global trips for SPE members at Imperial College.
Arrange social, technical, and career talks that benefit SPE members to ensure maximum participation.
Strengthen the collaboration between the Chapter and the wider SPE community.
Highlight the role of petroleum engineers in the energy transition.
Highlight the applications of data science in the energy industry.
Raise the national and international prominence of the SPE Imperial College student Chapter.

SPE Committee accountabilities

Ensuring successful and safe field trips.
Ensuring safety and responsibility in all our events and activities.
Using effective team collaboration and communication.
Planning and organising events effectively to secure the success of the Chapter's initiatives.
Implementing effective event tracking.

The SPE ICL Student Chapter new committee members

President: Mariam Shreif

Mariam is the current President of the SPE Imperial College London Student Chapter. She holds a Bachelor of Engineering in petroleum engineering from the Lebanese American University. With her interest in discovering the applications of Data Science in the energy industry, she decided to join Imperial College London to pursue an MSc in Go-Energy with machine learning and data science. Mariam has been a member of SPE since 2018 as an undergraduate student at LAU where she participated in the 2020 PetroBowl Regional qualifiers and the 2020 International PetroBowl championship. Her aim is to strengthen the SPE community at Imperial College and provide opportunities for SPE members to develop and grow their technical and soft skills to fuel their success in the rapidly evolving energy industry.

SPE ICL Student Chapter new committee... continued

Vice-President: Shraddha Sigitia

Shraddha is currently pursuing a Masters in Metals and Energy Finance at Imperial College London and is the recipient of the Bank of Montreal Scholarship. She also holds a Masters Degree in Geophysics from the Indian Institute of Technology and a Bachelors Degree in Geology from St. Xavier's, India. Prior to Masters at ICL, she worked for more than 3 years as a Development Petrophysicist at Cairn Oil and Gas in India. She is currently the Vice-President of SPE Imperial College London Student Chapter and aims to work towards creating a platform of opportunities for students to gain valuable insight and exposure to the energy industry.

Secretary: Gentur Wijayanto

Gentur is a Petroleum Engineering graduate from the University of Pembangunan Nasional Veteran Yogyakarta, Indonesia. Before joining Imperial, he worked as a research consultant providing feasibility studies for Oil and Gas field development projects in Indonesia. During his undergraduate study, he received a Star Scholarship from SPE International. He hopes that SPE Imperial will become a perfect platform for the members to enhance their skills and escalate the network within the oil and gas industry.

Membership Officer: Yang Meng

Yang is currently pursuing an MSc in Applied Computational Science and Engineering at Imperial College London. He holds the position of membership officer at ICL SPE student chapter. Yang's work experience includes: founder and Chair of SPE branch at Karamay campus, Intern in Xibu Drilling Engineering Co. Ltd, and project manager assistant. At the shale Oil Project Management Dept. in Jimusar. Yang aims in facilitating an engaged membership for all SPE members at Imperial College.

Treasurer: Gerald Ihedilionye

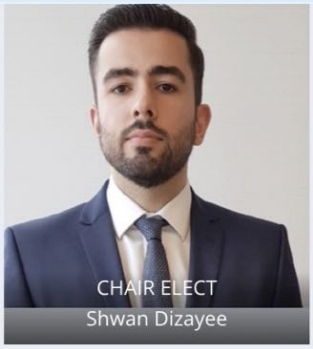
Gerald is the treasurer for the SPE ICL student chapter. He holds a Bachelor's Degree in Petroleum Engineering (first class honors) and is currently undertaking an MSc in Geo-Energy with Machine Learning and Data Science at Imperial College London will a full scholarship. He previously worked as a Petroleum Engineer (Integrated Asset Management Division) and Product Development Lead (Well Integrity Management Software) at Cyphercrescent Limited, and Field Engineer at Pegis Global Services Limited. He is also an avid volunteer for the Society of Petroleum Engineers (SPE), loves teaching, and has previously lectured in short courses at SPE conferences and postgraduate schools in Nigeria.

Meet the SPE London Board

SPE is a non-profit professional society with more than 156,000 members in 154 countries, who participate in 203 sections and 383 student chapters. SPE's membership includes 72,000 student members. The SPE London Section, with an average 2,000 members and seven associated student chapters, is an active section with an aim to connect, engage and promote the exchange of knowledge within the London energy community of technical and commercial professionals. The SPE London board is the governing body for the SPE London section. The different committees oversee the chapters various activities including the evening programme, various SPE events, Young Professionals, Women in Energy and associated student chapters.

SPE SECTION EXCELLENCE *** AWARD *** 2020


CHAIR
Elizaveta Poliakova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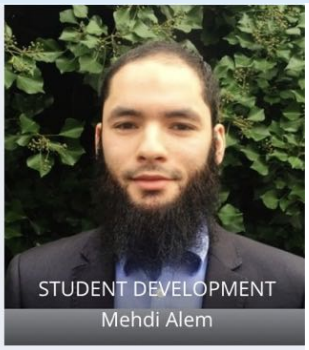
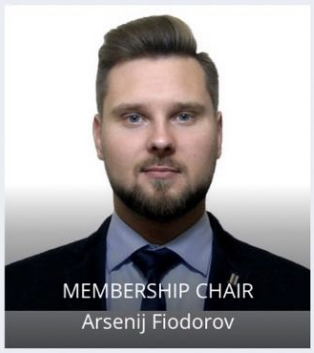
Shwan Dizayee


TREASURER
Vincent Penasse


STUDENT DEVELOPMENT
Mehdi Alem


PROGRAMME CHAIR
Tim LInes


SPONSORSHIP CHAIR
Adrian Southworth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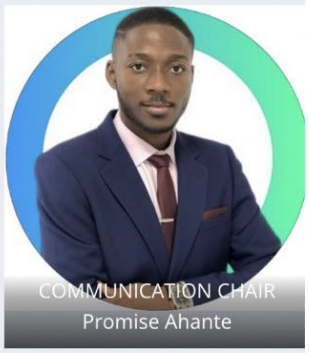
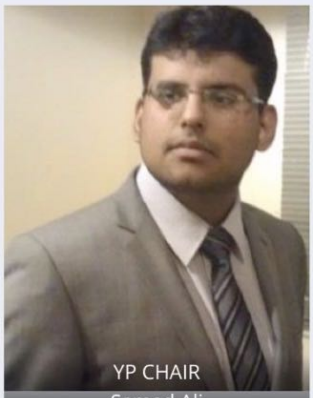
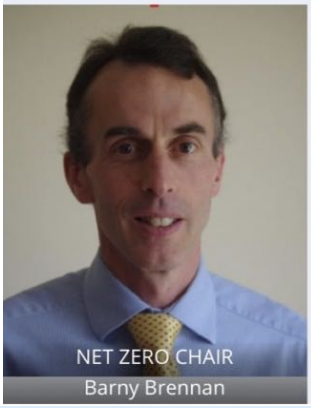

COMMUNICATION CHAIR
Promise Ahante


CONTINUING EDUCATION CHAIR
Adam Borushek

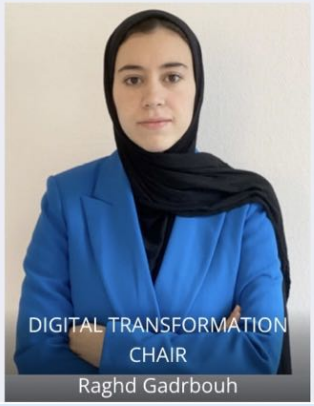

YP CHAIR
Samad Ali

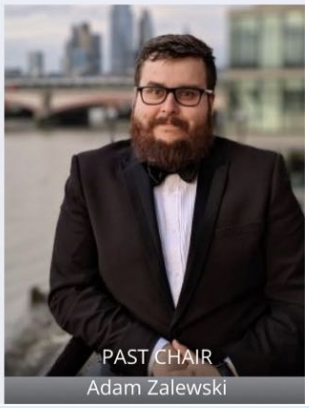

SOCIAL
Percy Obeahon


INTER SOCIETY / INDUSTRY
Carolina Coll


NET ZERO CHAIR
Barny Brennan


WiE CHAIR
Isabel Asenjo


DIGITAL TRANSFORMATION CHAIR
Raghd Gadrbouh


PAST CHAIR
Adam Zalewski