

# Post-Graduate Education Underpins Oman's R&D Ecosystem

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**E**ducation is the foundation of civilization; it is what enables communities, companies and countries to excel and push the boundaries of knowledge. A well-educated and committed population is integral to a successful economy, especially as a national vision evolves.

A post-graduate community of Masters and PhD students are supporting Oman's transition from being a hydrocarbon-based economy for nearly half a century – oil was first exported in 1967 – to a knowledge-based economy with a rich research and development (R&D) ecosystem, as per the National Vision 2020.

Muscat's plans for economic diversification into sectors such as manufacturing, mining, transport and tourism do not dampen the need for an innovative and cost-efficient energy sector, as oil and gas currently accounted for nearly 80% of government revenues last year. It is more important than ever to recognize and support the country's brightest minds.

Herein lies the value of the inaugural OXY Oman Student Awards for the Advancement of Post-Graduate Education. The Awards aim to enhance the prestige and attitudes toward research-focused education by providing an environment in which the most skilled and ambitious students can put their best foot forward and gain recognition from the industry, academia and government for their contribution to Oman's future.

The Winners of the 2016 Awards were chosen by esteemed members of the Selection Review Committee, who have international standing in the energy markets including Dr. Rahma Al-Mahrouqi, Deputy Vice-Chancellor of Postgraduate Studies and Research at SQU, Dr. Khalil Al Riyami, Vice President of Exploration at Occidental Oman and Professor Dr. Michael Georg Modigell, Rector, German University of Technology in Oman. The Award Winners will be-

come positive role models for the Advancement of Post-Graduate Education in Oman, which will help inspire the next generation to strive for professional excellence that can directly benefit Oman's economy and national vision.

The bar of success within Academia, Industry and Government for post-graduate success is forever rising in Oman and employers increasingly require talents that have a mix of 'hard' and 'soft' skills. Hard skills generally fall under the umbrella of science, technology, engineering and mathematics (STEM) learning, while soft skills tend to be an ability to think critically and be a strong communicator.

Cross-leveraging skill sets means that petroleum engineers are expected to communicate well and public relations professionals must understand the intricacies of oil and gas production, for example. Almost half of the world's petroleum engineers are scheduled to retire over the next decade, which highlights a shortage in just one highly-skilled area. Economists, accountants and analysts are just a few of the professions that are vital to the success of Oman's energy sector, along with traders, lawyers, financiers and regulatory bodies.

Consequently, post-graduate students face an increasingly steep learning curve. But, this will stand them in good stead as they look to take advantage of the knowledge-based jobs that will be on offer. Such opportunities will be supported within Oman as the first phase of the Innovation Park Muscat (IPM), which aims to become a hub of R&D in Oman, becomes operational by the end of this year.

Employers' support of the post-graduate community can have rewarding results, as illustrated by Occidental of Oman's instrumental role in enrolling 33 employees in the company's scholar-

ship program since 2013.

After securing Masters and PhDs, Omanis can push back against fierce competition to secure jobs overseas in multi-national energy companies and then import their newly-found knowledge when they return home. The energy sector has a global face and Oman's energy professionals who understand such practical and cultural complexities will sharpen their competitive edge and capacity to support Oman's national vision.

Oman has timed its economic transition well as global demand for expertise in energy R&D is strongly correlated to global energy demand, which the US' Energy Information Administration (EIA) expects to climb by 48% by 2040. Nurturing the development of post-graduate communities and a R&D ecosystem in Oman through initiatives like the OXY Oman Student Awards will enable Muscat to export knowledge to other energy producers in the Gulf and beyond.

Occidental of Oman has done a magnificent job developing Omani staff and improved oil recovery (IOR) and enhanced oil recovery (EOR) technologies. A massive EOR steam flood using gas injection and water flooding was implemented at the Mukhaizna heavy oil field, for example. Occidental of Oman and State-owned and Shell-led Petroleum Development Oman (PDO) is also gaining international renown for its innovative EOR strategies. Such innovation will help Oman climb higher on the global university rankings and encourage Omani students to register their patents locally and not via foreign universities.

The recognition and celebration by Industry, Academia and Government of today's post-graduate thought leaders, as facilitated by the OXY Oman Student Awards, is a vital step in enabling future generations to steer Oman down a prosperous path. ■