

Professor Sir Jim MCDONALD

Citation

Born into a family of craftsmen in Glasgow's Gowan shipyard area, Prof. Sir Jim MCDONALD's passion for engineering was evident from a very young age. A curious 12-year-old, he would dismantle radios and his family's only TV set to discover how they worked. Little did they know that he would grow up to become a widely respected and influential international figure in both engineering and tertiary education.

Resigned to having to leave school because of his family's financial situation, Sir Jim was encouraged to stay on and seize every possible opportunity for further study by his family and teachers. His hard work and determination paid off when he began transforming his life as a three-time graduate – and eventually Principal of – Glasgow's University of Strathclyde.

After graduating with a Bachelor of Science Degree in Electronic and Electrical Engineering in 1978, Sir Jim trained as a professional engineer in both the public and private sectors, acquiring extensive experience in power transmission and distribution. Recognizing his talent, Sir Jim's then employer, the South of Scotland Electricity Board, sponsored his studies for a Master of Electrical Power Engineering and he subsequently went on to earn a PhD in Power System Economics.

Relishing the opportunity to share his on-the-job expertise and insights with students, Sir Jim returned to Strathclyde as a lecturer in 1984. He was eventually appointed as Rolls-Royce Chair

in Electrical Power Systems in 1993, and became the university's Principal and Vice Chancellor in 2009. As academic-industry collaboration was still quite rare in the 1990s, Sir Jim was uniquely placed to develop and lead Strathclyde's research and commercialization portfolio by demonstrating how curiosity-based and user-focused research could provide a catalyst for positive change. One collaboration he remains especially proud of is Rolls-Royce's establishment of its University Technology Centre at Strathclyde in 1997.

Sir Jim was also pivotal in commercializing university research across multiple fields such as energy, renewable energy and AI. His tremendous contributions in harnessing academic knowledge to solve real world problems was subsequently recognized when Strathclyde's pioneering work in Electrical Power Engineering was awarded the Queen's Anniversary Prize in 1996. The University later won two further Queen's Anniversary Prizes for Energy Innovation and Advanced Manufacturing in 2019 and 2021 respectively.

With global warming now an existential threat, Sir Jim is an enthusiastic advocate of "engineering for the future". To this end, he provides advice to both the UK and Scottish governments on energy strategies and advances such as systems-driven decarbonization methodologies. The ultimate aim is ensuring the UK can meet its commitment to eliminating CO₂ emissions within the next 25 years.

Sir Jim's proven track record in synergizing academia and industry made him an ideal collaborator for HKUST. In 2017, the University and Strathclyde signed a Memorandum of Understanding (MoU) which launched a Dual Master's Degree Programme called "Focusing on Future Energy and Power System Smart Operation and Management" for both existing and aspiring engineers. In early 2022, a new Collaborative Research Agreement was signed and the MoU extended to cover joint projects in frontier fields such as decarbonization and renewable energy engineering.

Sir Jim gives back to his specialist field by serving on multiple professional bodies. In 2019, he became the first Scot to be elected President of the Royal Academy of Engineering. He also sits on the UK Prime Minister's Council for Science and Technology and the National Physical Laboratory, and co-chairs the Scottish Government's Energy Advisory Board with the First Minister of Scotland. A non-executive director of two large energy and engineering companies, Scottish Power and the Weir Group, Sir Jim is also a fellow of the Royal Society of Edinburgh; the Institution of Engineering and Technology; the Institute of Physics; the Energy Institute; and an International Member of the US National Academy of Engineering. Here in Asia, he is a Foreign Fellow of the Chinese Society for Electrical Engineering, and also a UK member of an educational advisory board affiliated with the

Ministry of Education of the People's Republic of China.

An accomplished engineer and visionary educational leader, Sir Jim's unstinting commitment to building a better and sustainable future have earned him numerous distinguished recognitions and accolades. In 2012, he was awarded a Knighthood from the late Queen Elizabeth II for his services to education, engineering, and economy. In 2022, he was presented with a lifetime achievement award by the China-Britain Business Council.

Council Chairman, on behalf of the Council of the Hong Kong University of Science and Technology, I have the high honor of presenting to you, Prof. Sir Jim McDonald, Principal and Vice-Chancellor of the University of Strathclyde, for the award of Doctor of Engineering *honoris causa*.