SUMMARY

New Appointments to Endowed Chairs, Professorships, or Fellowships (1)

June 8, 2021

College of Engineering (1)

Richard Zhang	Hugh P. and Ethel C. Kelly Professorship

ENDOWED PROFESSORSHIP
Hugh P. and Ethel C. Kelly Professorship

Upon recommendation of the honorifics committees of the Bradley Department of Electrical and Computer Engineering, Dean Julia Ross nominates Richard Zhang, Ph.D. to hold the Hugh P. and Ethel C. Kelly Professorship. Dr. Zhang is eminently qualified because of his transformative engineering and business leadership in research and development of medium- and high-power electronic energy conversion technologies.

Dr. Zhang received his Ph.D. in Electrical Engineering from Virginia Tech in 1998. From 1998 to 2008, he was with General Electric (GE) Global Research Center in Niskayuna, New York, leading power electronics research serving all GE industrial businesses including GE Renewable Energy, Healthcare, Aviation, Oil & Gas, Power, Transportation, Lighting, and Industrial Systems. Subsequently, between 2008 and 2016, he held several executive technology and business leadership positions at GE Oil & Gas and GE Power Conversion based in Paris, France, and in Shanghai, China. In 2017, he joined GE's Grid Integration Solutions business based in Stafford, UK as the Chief Technology Officer, where he has been until deciding to join Virginia Tech.

Over the years, Dr. Zhang has led teams that have won many large government research program grants from the Defense Advanced Research Projects Agency (DARPA), Department of Defense (DOD), and Department of Energy (DOE) in excess of $35M, and has created major business initiatives and defined and led large research and development (R&D) portfolios. He managed R&D teams with sizes ranging from 50 to over 500 in eight different countries: US, France, Germany, UK, Canada, China, India and Brazil. The technologies and products created in Dr. Zhang's teams have been deployed in cumulative capacity of over 60 gigawatts (GW) in multiple industries, such as wind, solar, oil and gas, healthcare, marine, mining, power generation, and metal processing, enabling over $10B for GE businesses and making extraordinary contributions and impact on society. In his last position, Dr. Zhang oversaw the construction of the most advanced in the world high-voltage high-power experimental research facilities in the Supergrid Institute in Lyon, France, and one of the world-largest real-time data systems for grid simulation in Stafford, UK. The resulting revolutionary control platforms enabled Dr. Zhang's team to win the production and construction of the world-largest 1.4 GW offshore wind-farm HVDC tie-back project, now operating in the North Sea, UK.

What is additionally impressive is that Dr. Zhang was always able to find time and energy for scholarly dissemination of knowledge and mentoring of younger colleagues. He has co-authored 35 papers in peer-reviewed conferences and journals and has over 100 patents or patents-pending. Based on Google Scholar, he has over 3,200 citations and his *h*-index is 27. Dr. Zhang taught numerous courses in the GE Edison Engineering Development Program, GE Six-Sigma Training, and European Ph.D. School. He started internal GE education programs such as "New Product Introduction Leadership Academy" at GE Power Conversion and "GE HVDC University" at GE Grid Integration Solutions. Three of his GE advisees are now professors at U.S. universities, and two are CEOs. He has delivered numerous invited lectures at many professional meetings, including a tutorial at Institute of Electrical and Electronics Engineers (IEEE) Energy Conversion Congress and Expo in Milwaukee, Wisconsin in 2016, at the Biannual Postgraduate Conference at Cambridge University, in the UK in 2018, at the IEEE eGrid Workshop in Charleston, South Carolina in 2018, and at the IEEE Workshop on Power Electronics for Grid Dynamics at Imperial College, London in 2019.

Dr. Zhang was associate editor for *IEEE Transactions on Power Electronics*, an administrative committee member of the IEEE Power Electronics Society, has been a reviewer and session organizer for multiple journals and conferences, and has been a member of several IEEE and non-IEEE standardization working groups. He is a fellow of IEEE for his technical leadership in the development of high-power electronics.

RECOMMENDATION:

That Richard Zhang, Ph.D. be appointed the Hugh P. and Ethel C. Kelly Professor for a five-year term, effective August 10, 2021, with a salary supplement and annual operating budget as provided by the endowment and the eminent scholar match program, if available.

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