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Cristina Amon is the Dean of the University of Toronto's Faculty of Applied Science & Engineering and Alumni Professor of Bioengineering in Mechanical and Industrial Engineering. She is responsible for the strategic and visionary leadership of one of the world's most distinguished Engineering schools, the administration of over 750 faculty, researchers and staff with an annual operating and research budget of \$250M, and the education of more than 5,000 undergraduate and 2,000 graduate students.

Since her appointment in 2006, Dean Amon has created programs to foster collaborative scholarship, enhance student experience, encourage active learning, promote research excellence and accelerate innovation. Under her leadership, U of T Engineering has become a global intellectual hub for interdisciplinary research and education. She has introduced a number of initiatives, including undergraduate programs in energy systems, global engineering and engineering business, and professional masters with a focus on entrepreneurship, leadership, innovation and technology in engineering, and cities engineering and management. She has also led the creation of cross-Faculty centres and institutes in the areas of healthcare engineering, sustainable energy, global engineering, identity, privacy and security, design innovation, and leadership education in engineering. Under her leadership, research and graduate programs have experienced unprecedented growth, with an increase of over 50 per cent in the number of doctoral students and more than double the number of professional master's students.

Dean Amon received her Mechanical Engineering diploma from Simón Bolívar University and continued her education at the Massachusetts Institute of Technology, where she earned her MS and ScD degrees in 1985 and 1988, respectively. Prior to her appointment at the University of Toronto, she was the Raymond J. Lane Distinguished Professor and Director of the Institute for Complex Engineered Systems at Carnegie Mellon University.

A pioneer in the development of Computational Fluid Dynamics for formulating and solving thermal design problems subject to multidisciplinary competing constraints, Dean Amon continues her research at the University of Toronto in nanoscale thermal transport in semiconductors, energy systems and bioengineered devices.

Dedicated to outreach, Dean Amon was the architect of U of T Engineering's Skule Mentorship program and Carnegie Mellon's Engineering Your Future program, designed to introduce pre-university underrepresented students to the excitement of engineering careers.

Cristina Amon serves on the BoD of MKS Instruments Inc., a leading global provider of instruments and process control solutions for advanced manufacturing of semiconductor devices, energy generation and electro-optical products. She is chair of the research committee of NCDEAS (National Council of Deans of Engineering and Applied Science in Canada), past chair of the Global Engineering Deans Council, and has served on advisory boards for several institutions including Penn, Stanford, UCLA and Waterloo.

Dean Amon has received numerous awards, including the ASME Gustus Larson Memorial Award, ASEE Westinghouse Medal and the ASME Heat Transfer Memorial Award. Most recently, she was recognized as one of Canada's most Influential Women in 2012 and was honoured with the Society of Women Engineers' (SWE) highest honour, the 2011 SWE Achievement Award, for her outstanding contributions to engineering over more than 20 years. She is also the recipient of the prestigious YWCA Toronto Woman of Distinction award, which recognizes her achievement in improving the lives of girls and women in science and engineering.

Dean Amon has been inducted into four academies, the Canadian Academy of Engineering, the Spanish Royal Academy, the Royal Society of Canada and the U.S. National Academy of Engineering. She has been elected fellow or honorary member of all major professional societies in her field and has contributed 350 refereed articles in education and research literature.

**Q. Why did you choose a career in a STEM field?**

**A.** I was attracted to engineering because I wanted to create things that could have a direct, immediate impact on society and on people's lives. Einstein said, "Scientists investigate that which already is, engineers create that which never was." I love that quote.

**Q. How does your work as an engineer benefit humanity?**

**A.** My primary research work is in the area of Computational Fluid Dynamics (CFD) for formulating and solving thermal design problems subject to multidisciplinary competing constraints. It benefits humanity in several ways, for example, more heat-efficient semiconductors and on-demand recuperative transient thermal technologies for wearable computers. I have also done research on

transport in biological systems, intravenous blood oxygenators and abdominal aortic aneurysms. My research group has been also investigating energy generation in micro-scale direct methanol fuel cells and in wind farms, which has the potential to lead to improvements in energy systems.

My work as Dean enables me to provide strategic and visionary leadership of one of the world's most distinguished Engineering Faculties, and help shape the education of the next generation of engineers.

**Q. What advice can you give to young women who are interested in engineering?**

**A.** Don't let anyone tell you no. No, you're not smart enough. No, you don't have the math, sciences and creativity aptitude. If you love it, if you find pleasure in discovering how things work, in creating what didn't exist before, and you want to make the world better, don't listen to "no". Don't be afraid to make mistakes.