

Profession's image one of new dean's priorities

Cristina Amon, the University of Toronto's first-ever female dean of engineering, has her sights set on making the profession more accessible, relevant and exciting to the next generation of practitioners.

BY MICHAEL MASTROMATTEO



Cristina Amon, the new dean of applied science and engineering at the University of Toronto.

The appointment of Cristina Amon as the dean of applied science and engineering at the University of Toronto comes at an opportune time for a profession interested in celebrating the virtues of access and diversity.

Prof. Amon, who succeeded former Dean Tas Venetsanopoulos, P.Eng., in July, brings to her new role an exhaustive professional resume and a longstanding commitment to make engineering more interesting, relevant and accessible to students from diverse backgrounds and life experiences.

Amon comes to the University of Toronto from Carnegie Mellon Uni-

While in the United States, she played key roles in developing Engineering Your Future, a workshop for female and minority high school students. As well, she supported a "Moving 4th into Engineering" program, which targeted eight- and nine-year-olds with information about engineering as a future career option.

Awards and recognition

In 2003, Amon was honoured with the Hispanic Engineer National Achievement Education Award and, two years later, was named one of the most important Hispanics in technology and business.

Despite enjoying significant career success in the US, Amon was receptive to U of T's offer to become dean of engineering. "I was especially interested in the opportunity at U of T because it enjoys a strong faculty with the potential to become stronger and have a premier place worldwide," she told *Engineering Dimen-*

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versity in Pittsburgh where, for the last six years, she served as director of Carnegie's Institute for Complex Engineering Systems. She first joined the faculty at Carnegie Mellon in 1988 after completing master's and doctoral degrees from the Massachusetts Institute of Technology.

A native of Uruguay, Amon obtained a degree in mechanical engineering from Simon Bolivar University (Universidad Simon Bolivar) in Caracas, Venezuela, in 1981.

In addition to her academic and research pursuits, Amon has been deeply involved in engineering outreach activities.

sions. "I was aware that it was one of the largest and more prestigious schools in Canada, and it has the potential to rise to the top at the world level as well."

Her research interests have focused on developing computational fluid dynamics (CFD), micro and nanoscale transport, and mass transport in biological systems, involving applications for abdominal aneurysms and intravenous blood oxygenators. A more concise description might simply be "biomedical engineering."

"My mainstream is mechanical engineering and some of the projects are within biomedical engineering," Amon says. "I could say that biomedical engi-

neering in my view is not a pure engineering discipline. It takes from the basis of all the other disciplines towards applications in the biomedical field.”

In any case, Amon’s research work demonstrates the enabling nature of engineering/biomedical engineering and, in turn, supports her aim of using elements of the discipline’s real-world applications as a way to lure more people into an often misunderstood field.

“I think that’s one way in which we can bring more of the female representation into engineering,” she says. “Because the application towards human life and society is pretty much an interest of young women, the more modern engineering applications are ideal, in my view, to encourage more of the female population to come into engineering.”

Amon says she is looking forward to maintaining a “classroom” presence by advising graduate students in some of their research activities, despite the anticipated competition for her time and attention between the administrative, fundraising and bureaucratic aspects of her new job and her engineering educator’s sensibility.

provide those skills while they are still in university. In addition to the very strong academic background that is one of the landmarks of U of T, we would like to enhance the professional skills, like communication, teamwork, entrepreneurship, leadership, [and] opportunities to take on team player roles.”

A new resident of Toronto, Amon has already applied for her Ontario

Whether aimed at educators or front-line practitioners, Amon’s views on engineering seem well suited to a profession seeking to extol the value and importance of self-regulation. “One of my goals is to help others appreciate engineers and their contributions to our society,” Amon said. “The creative work that engineers do is often taken for granted. Engineers are the individuals

Dean Amon at a farewell reception for outgoing U of T engineering Dean Tas Venetsanopoulos, P.Eng. At left is Santosh Gupta, P.Eng., a former PEO Councillor, who attended the farewell reception through his involvement with the Council of Ontario Deans of Engineering (CODE).



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Evolving curriculum

As for bringing innovation to the education of future engineers, Amon seems committed to a consultative approach. “I think my influence will come through working together with the faculty and the professors who work on developing the curriculum for the students,” she says. “I also think engineering is a very evolving field. For instance, now we have the multi-disciplinary component. The systems engineering component is becoming more and more important, as are team work skills. Today’s students need to talk to other disciplines in working collaboration, so I think it is important to

engineering licence. The move reflects both her interest in leading by example, and the requirement of the Canadian Engineering Accreditation Board that the dean of the faculty be licensed.

“There are other women who have already started in the administrative path within academia,” she says. “For me, it has been very positive, so I do hope to be a good role model for the female faculty and for the students, and in general one of my goals will be to encourage more of the young generation, independent of gender, to pursue careers in engineering.

who solve the many needs of our community. Engineers are in charge once we get down to solving problems, developing new technologies, and leading the technology revolution... Similarly in biomedical research and in clinical medicine for improved health care, the needs and opportunities of engineering contributions are immense. Here we merge the principles, laws, and techniques of engineering, physics, chemistry, and other physical sciences with biology, and medicine, in a multi-faceted/multi-disciplinary approach to define and to resolve problems in biomedical research and in clinical medicine for improved health care.”