

Responding to a Changing World

By Brad Stager

Julia Ross' March 9 Eminent Scholar Lecture Series presentation poses a question that many of the attending college students, faculty and administrators might themselves sometimes ask: "Our World is Changing... Are We?"

It is a topic that Ross, who is the Paul and Dorothea Torgersen Dean of Engineering at Virginia Polytechnic Institute and State University, says is relevant at campuses across the country.

"There are a lot of things we have in common. We're all dealing with many of the same struggles and issues, and challenges. But the local context makes everything a little bit unique at every different university."

Some of the common factors Ross cites as currently impacting academia are diminished public opinion regarding higher education, greater oversight and reduced funding from state governments with an attendant need to increase philanthropic support. A decrease in corporate-sponsored research is also having an effect on universities according to Ross.

The eternal and ongoing nature of change as something to be considered is no secret to engineers, but Ross says what's occurring now is substantially changing the landscape in which they operate and teach.

"You hear a lot more about it in the last five years, six years, seven years, in higher-ed circles and something feels different this time, as we talk about change in the external environment."

Ross cites the greater complexity of issues engineers are called upon to address, globally as well as locally, as a significant factor motivating changes such as adopting a transdisciplinary approach to education and problem solving.

“What we have is a little bit of a mismatch between our current structures and processes in the ways we operate that have served us so well for such a long time and the kind of work we’re trying to do.”

Ross adds that the increasingly rapid growth of information further complicates managing change.

According to Ross, changing demographics in the student population means universities have to meet the needs of students from a wider range of backgrounds and experiences and that doing so will lead to a more inclusive environment in the field overall.

“We’re going to have to adjust to those changes,” says Ross who earned her PhD in chemical engineering at Rice University.

While a degree from Virginia Tech is a solid entry on a job application, Ross says today’s students are thinking beyond a hefty paycheck and finding satisfaction in taking the school’s motto, *Ut Prosim*, Latin for “That I May Serve,” to heart.

“These students care deeply about the world.”

Ross adds that respecting Virginia Tech’s traditions such as a strong commitment to service helped the university heal following a 2007 mass shooting on campus.

Virginia Tech’s response to the evolving engineering environment as expressed in the university’s report, “Beyond Boundaries: A 2047 Vision,” was shared by Ross who says the document will help chart the school’s course toward its 175th year since establishment as a public land-grant military institute in 1872.

A key element of Virginia Tech’s plan is the establishment of “destination areas” that cut across traditional academic disciplines to create new degree

programs in fields such as global systems science and integrated security that reflect and promote transdisciplinary scholarship. Ross says increasing the number of students from underrepresented minorities as well as the raising the percentage of philanthropic support in funding are also part of Virginia Tech's vision for the future and its quest "to be a Top 100 Global University."

Having a plan may be second nature to many in the engineering field but Ross suggests they engage in a one of the most basic human functions that is often overlooked but can greatly aid in adjusting to what's going on.

"A lot of this navigating change involves listening to people," she says, adding that it's not always easy to do so. "Part of the challenge here is that it actually takes a lot of time to listen to people and really understand their concerns."