



Timothy D. Sands
16th President



INSTALLATION SPEECH

October 17, 2014

Two o'clock
Burruss Hall Auditorium

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

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Students, faculty, staff, alumni, members of the Board of Visitors, elected representatives, members of the community, colleagues, and friends of Virginia Tech, it is my great honor to serve this remarkable institution as its 16th president.

I would like to personally thank my colleagues who provided opportunities and support throughout my career, and I'd especially like to thank my family, many of whom traveled great distances to be with us today.

Since its founding in 1872 as the Virginia Agricultural and Mechanical College, Virginia Tech has stayed true to its heritage as a land-grant institution with two principal missions: first, to prepare the next generation, regardless of class, status or income level, to participate as informed and engaged citizens in our democracy; and second, to create new knowledge and to translate that knowledge to improve the human condition and the economy of the region.

Virginia Tech has pursued these noble goals through world wars, economic disasters and major cultural shifts. All the while, Virginia Tech adapted to the times, transforming its physical infrastructure, student body and faculty so as to maintain a true course. Today, Virginia Tech is a major research university, with internationally recognized programs across the institution, annual research expenditures of nearly half a billion dollars, and facilities in every corner of the Commonwealth and around the world.

Now, there are perhaps dozens of U.S. institutions that could lay a similar claim. What makes Virginia Tech special? ...even unique? I have had the better part of a year to consider that question, and more than four months to observe from within. Here are three themes that I believe set Virginia Tech apart.

First, Virginia Tech is characterized by a 21st Century array of disciplines - Virginia Tech has a programmatic balance that is perfectly suited to the needs of today's world. We are a land-grant institution with strength across the board in science, technology, engineering and agriculture, yet we are not just a technology institute. We have continued to promote the arts, humanities, and social sciences as essential contributors to teaching, learning, discovery and engagement. That academic blueprint was prescribed in the Morrill Act of 1862, and we are among only a handful of institutions that has preserved that delicate balance between the practical arts and sciences and the study of what makes us human.

Virginia Tech's longstanding leadership in interdisciplinary collaboration further reinforces our future as a balanced and comprehensive university. Indeed, while we must understand our professions by learning within our disciplines, the work environment straddles the full range of disciplines, and that combined breadth and depth contributes to the unique Virginia Tech experience.

The challenges ahead demand an appreciation of the aesthetic, an understanding of history, and all of the rigors of science, engineering and technology that we can muster. The universities that thrive in the 21st Century will be those that can span the disciplines in an integrated, holistic fashion. Our research institute model has positioned us well for graduate education and research, as exemplified by our newest Ph.D. program in Translational Biology, Medicine and Health.

What really has me excited, though, is the transfer of this forward-thinking approach to our undergraduate curricula. Entering students at Virginia Tech have an array of relevant and challenging major and minor options to pursue, from Neuroscience, to National Security & Foreign Affairs; from Packaging Systems & Design, to Real Estate; from Computational Modeling and Data Analytics, to Water: Resources, Policy and Management.

These new interdisciplinary degree programs are attracting the most talented and ambitious students from the

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Commonwealth and from around the world. Students pursuing these new curricula experience the intellectual diversity that is so richly evident in our comprehensive university. Soon-to-be-engineers learn to appreciate the insights of a demographer; computer scientists are inspired by the visual artist; a business student discovers a new career trajectory in a conversation with a plant pathology major; and a budding teacher can see the future of education unfolding in a tool developed for an entirely different purpose by a technology student.

We are breaking free from the myth that employers focus on a graduate's major rather than the interpersonal, intrapersonal and cognitive skills that a student has developed. Nearly 4 in 5 employers do not restrict the list of majors from which they recruit. These new programs will prepare our students for the 21st Century, not the 20th.

That takes me to the next foundational strength of Virginia Tech: The residential undergraduate experience. This has long been a strong point here, and the results in terms of retention, graduation rates, low loan default rates, and high starting and mid-career salaries, attest to those strengths. Furthermore, results from surveys of alumni satisfaction that place Virginia Tech near the top of all U.S. universities, public or private, underscore this special Virginia Tech campus experience. We will continue to build on this strength.

Third, I'd like to highlight our motto, "*Ut Prosim* – That I May Serve." By the time of my first public visit to the Blacksburg campus in December, I was convinced that the community of Virginia Tech is defined by its commitment to service. While this was evident from the university's earliest days when the Corps of Cadets comprised the student body, the definition of service has broadened, from service in the defense of our nation, to service to humanity. The Drillfield at the center of campus, with the eight Pylons framing the visual entrance, provides a daily reminder to those of us on the Blacksburg campus of our service heritage. The daily presence of the Corps of Cadets on the Drillfield reminds us all of our commitment.

When I speak to students, they often volunteer in conversation that they were attracted to Virginia Tech by the reputation of the academic programs, the strength of the community... and its commitment to service. There are very few universities in the world where young people link together these concepts – academic excellence, strength of community, and commitment to service - to describe their educational experience, as we do at Virginia Tech.

And this simple fact makes the roles of our faculty and staff even more profound. Not only are we here to educate. Our faculty and staff must work to create an environment that will allow our students to prepare for a meaningful life of service to humanity, channeling their passions, identifying their strengths, and building their skills to help them find and realize their full potential to serve through their professions, their avocations and their everyday approach to living.

This is Virginia Tech's unique place in the global array of institutions of higher education. It is also why our research programs do not stop with new knowledge, but are shaped by the potential impact they can have on humanity. Our faculty, students and staff are driven by their desire to see new knowledge implemented in service to society. The reason Virginia Tech has stayed so true to its founding dual mission is that we live by *Ut Prosim*.

Let's take a moment to contemplate the challenges ahead:

- feeding nine billion people;
- adapting to climate change while reducing our carbon footprint;
- building resilience into our communities, our cities, our infrastructure and our financial systems;
- protecting biodiversity and reversing deforestation;
- saving our threatened fresh water resources;

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- advancing civic communication in managing conflict;
- addressing the health and well-being of our aging population;
- and curing or suppressing disease in the increasingly interlinked developed and developing regions of the world...just to name a few...

What better institution than a public land-grant university with the motto *Ut Prosim* to take on these 21st Century challenges? It's not just about expertise, new knowledge and translation of that knowledge...it's about the spirit and orientation of the people of that institution – of *this* university. Imagine if we had a national and global system of educators, researchers, and students who all lived by *Ut Prosim*... imagine how profoundly different and better our future would become.

Through the hard work of many, Virginia Tech has grown from its humble origins in 1872 to the unique, educationally balanced, service-driven institution that is tackling the challenges of the 21st century. Yet, where do we go from here? Where does this university need to be on our 150th anniversary in 2022? And, do we dare think beyond, to perhaps 2047, our 175th anniversary?

Let's start with 2022. I'd like to reflect on what I have learned from the people of Virginia Tech about your aspirations. Although I learn more every day, I have seen the following themes emerge among our constituencies:

- Virginia Tech will continue to strive to move up in the ranks of U.S. research universities. This effort that President Steger announced at his Installation in 2000 brought us from #55 ten years ago to #40 in the latest National Science Foundation rankings of research expenditures, the fastest growth over the past decade of any land-grant university among the top 50. I am confident we have the momentum to reach even higher – toward the top thirty - by 2022. Although research expenditures are a proxy for impact, they represent, in the simplest way, our commitment to this important aspect of our mission. And that commitment is essential to positioning Virginia Tech to address the daunting challenges ahead of us. Our ranking as a research institution is not a goal unto itself, it is a reflection of our impact and momentum, and a signal to talented people everywhere that we are a university in action.
- Further, Virginia Tech will become a top-100 global research institution. Reaching this milestone will require that we commit to impactful curiosity-driven scholarship as an essential part of the continuum of research at a land-grant institution. I am encouraged by the fact that Virginia Tech has developed great momentum in scholarship since 2000, with our annual publication rate increasing by a factor of more than four, and our annual citations increasing by a factor of more than six. Maintaining this momentum into the top 100 will require that we become increasingly competitive globally for talent. Attaining top-100 status will gain the attention of those talented individuals and potential partners.
- Next, Virginia Tech will attract that talent by offering world-leading interdisciplinary programs and research opportunities - for example, in efforts that connect art and design with science, engineering and technology; that integrate policy with science and data analytics; that leverage the natural sciences and technology with the human sciences; and in fields that are enabled by high-performance computing and simulation. Virginia Tech will be a global leader in addressing the challenges of the 21st Century: Security, Resilience, Health, and Sustainability - the themes that should define this global land-grant university.
- Virginia Tech will also attract faculty, staff and student talent through its reputation as an institution where dreams for positive impact on humanity through innovation, commercialization and entrepreneurship can be realized. We must help lower the barriers to commercialization and company formation. By focusing on unleashing talent rather than on licensing revenue, we will catalyze the transformation of the New River and Roanoke Valleys into a dynamic economy that thrives at the nexus of the arts, design, science and technology.

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- Our partnership with Carilion Clinic through the Virginia Tech Carilion School of Medicine and Research Institute provides a compelling example of what can be accomplished when corporations and regional government, partner with Virginia Tech - and this is only the beginning. If we can do this in the Roanoke and New River Valleys, we can do the same in the National Capital Region, Southern Virginia, Hampton Roads, Richmond, and throughout the Commonwealth. Virginia Tech is uniquely positioned to help drive the growth of Virginia's economy through creating new businesses, expanding established businesses, and preparing our students to lead in the new economy.
- The residential model for undergraduate education is increasingly understood to be critical to the development of the "T" shaped student, with depth in the discipline but strength across the skills that the modern economy demands. There is a whole world out there, and learning by doing has to be part of the experience. Our broad presence in the National Capital Region is a unique asset for our faculty, our undergraduates based in Blacksburg, and our graduate and professional students everywhere in the Commonwealth. No other institution can claim both an expansive mountain campus and a campus in the "Capital of the Free World," all in the same state.
- We must find ways to exploit this "Binary Star" by building our National Capital Region presence into a Global Innovation District that serves all three functional mission areas of discovery, learning and engagement. A Virginia Tech faculty member, staff member or student will see the Blacksburg campus and the National Capital Region as one, and we must focus on reducing the physical, social, bureaucratic, and financial barriers to becoming, effectively, one distributed campus.
- Although Blacksburg, Roanoke and the National Capital Region represent the largest concentration of Virginia Tech's people and assets, Virginia Tech has presence throughout Virginia with sites in Richmond, Hampton Roads, Southern and Southwest Virginia, and Cooperative Extension offices in each of Virginia's 107 counties and cities. All of our distributed sites must leverage the resources of the entire university.
- We also have growing footprints across the world, including Switzerland and India. In 1872, two great oceans defined our domain of opportunity and influence. Today, it is impossible to view our mission in anything less than a comprehensive global context. Our students are global citizens. They expect to be prepared to compete globally, and we need to do everything we can to provide those opportunities.
- Technology is interconnecting the geographically dispersed assets of Virginia Tech. To our students, faculty, staff, alumni and partners, Virginia Tech will be one globally interconnected campus, linked by the best technology available, including some developed by the university itself.
- Aiding in the interconnection of our venues and the mobility of our people will be the development of modular and portable course content that will allow Virginia Tech to engage globally, while also serving our on-site students through hybrid models that allow our faculty to focus on active teaching and learning in the hands-on, minds-on tradition of Virginia Tech.

Speaking of our commitment to our students, we know from decades of social science research on well-being that there is more to thriving as an adult than financial wealth. Thriving in later life should also be evaluated in the context of the domains of Social, Community, Physical and Purpose.

Likewise, a student's return-on-investment from higher education is more than an enhanced income. The recent Gallup-Purdue Index report, which surveyed 30,000 graduates of U.S. institutions, is making feasible a focus on what truly matters to our students: Are they thriving in life and engaged in their work? - and what experiences as students associate most strongly with thriving and engagement in later life? Although we are just beginning our partnership with Gallup to survey our students and graduates, we do not need to wait for those returns to elevate the clearest outcomes of the pilot study. In this context, I am committed to several aspirational goals:

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- First, every Virginia Tech undergraduate will have the opportunity to participate in either an internship in a field related to their studies, or in a meaningful undergraduate research experience, or both. We have ample data to show that these opportunities open doors and raise ceilings. We owe it to our students to make these experiences available.
- We also know that mentorship matters. Every student will have access to a personal mentor, whether that mentor is a Hokie alumnus or alumna, a faculty member or a staff member. We have a tremendous opportunity here for our devoted alumni to engage with our current students.
- Every undergraduate who wishes to participate in study abroad will have the opportunity to do so without delaying progress toward their degree goals and without financial hardship.
- We will promote our deep experiential leadership programs, including the Corps of Cadets and Intercollegiate Athletics. The students who participate in these programs learn how to manage their time, how to lead, and most importantly, how to push themselves beyond their own perception of their limits. They inspire all of us to do the same.
- Every student, faculty and staff member at all of our campuses and facilities will have a culturally rich experience, with opportunities to live, work and study with people whose life experience is very different than their own. And Virginia Tech will also have the feel of a Global Neighborhood, without sacrificing the caring, compassionate, hard-working and service-oriented Hokie culture that makes Virginia Tech special. We will lead intentionally with inclusion as a pathway to excellence.
- These experiences will reinforce our parallel and intertwined efforts to structure our curricula to ensure that our graduates have both depth in their disciplines, and the skills necessary to compete. This means that every Virginia Tech student should be able to transform data into actionable information, explain their work in a broader societal context, communicate effectively, and know how to build strong teams and how to work in those teams.
- They should also leave Virginia Tech with the entrepreneurial skills needed to turn their vision for a better world into reality. Unlike prior generations, current and future generations of Hokies will see starting a company or joining a start-up, as a viable first step upon graduation. By offering this pathway while they are students, they will build the skills that develop personal resilience that will serve them well during turbulent economic times ahead.
- While building an ever stronger student experience, we must also assure that Virginia Tech will be affordable to every Virginia resident who is academically qualified and for whom Virginia Tech's innovative and strong programs, supportive community, and *Ut Prosim* culture are ideally suited. This is a commitment from our land-grant charter. We cannot lose sight of the fact that a Virginia Tech education can transform not only the life of each student, but the future of an entire family, or even a community.
- Finally, and perhaps most significantly, I pledge to do everything I can to ensure that Virginia Tech will become the top choice for students who are preparing themselves for a meaningful life of service to others, whether that be through a profession, an avocation, or simply a way of living. We will be known worldwide as "The Service to *Humanity* Academy." That commitment is best achieved if we grow as an institution, providing access to more Virginia students while bringing more of the world to Virginia Tech. By growing our faculty and student body strategically, we can amplify our positive impact on the world.

While I am taking the liberty of consolidating the voices I have sampled in my first four months in building this list of aspirations for 2022, that task is made easier by the recent New Horizons strategic plan for 2012-2018 that was cooperatively developed by the university community. I am extrapolating what is already on the horizon, reflecting the changing landscape and Virginia Tech's strengths and momentum as we know them today.

While Virginia Tech has strategically plotted its course toward the future, the reality is that the ground underneath us is shifting again. To stay on a trajectory that is true to our mission, we will again have to undergo another major transformation, as we did in the 1890s, the 1920s, the 1940s, the 1960s and 70s, the 1990s and the first decade of the 21st Century. We are

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honored to have with us today, three of the presidents who served the university during these times of great institutional transformation. Please join me in showing our appreciation for these great leaders, presidents Hahn, Torgersen and Steger.

How is the ground underneath us shifting? Let me highlight just a few of the challenging longer-term trends:

- First, the public-good model for funding public universities has eroded for three decades. At Virginia Tech, state support per Virginia undergraduate is only half what it was in real dollars in 2000. These reductions in state support have challenged our access mission and we have lost ground in the ability to offer competitive compensation for faculty and staff, for which we now compete globally. Despite this, there is widespread recognition that Virginia Tech's access and economic development missions are critical to Virginia's future. We must build upon the strong support we have in the Commonwealth to reverse this trend of declining state funding to ensure the affordability of a Virginia Tech education for our citizens.
- Second, the funding of research is increasingly unreliable in the current climate in the state and federal government; institutions such as Virginia Tech cannot continue to be viewed as deep pockets that should co-fund sponsored programs. If the funding model does not change, we will be relying to a greater degree on limited gift and foundation funds to propel our research in partnership with government and corporate sponsors.
- Finally, the demographics of our future students from Virginia, the US and around the world are shifting markedly, becoming more diverse in every dimension. We need to be ready; we need to anticipate; we need to be intentional and proactive in taking advantage of this diversity.

Although the futurist in me is tempted to chart a course for 2047, one-third of a century in the future, that is not a single person's charge. I am announcing today that Virginia Tech and its stakeholders, students, staff, faculty, alumni, parents, and representatives will take on this special and timely challenge - to set our GPS, our North Star, with VT-VIBE-2047, a planning process that will be Visionary, Inclusive, Bold and Efficient ...hence the VIBE!

With a North Star one-third of a century in the future, we will be able to plot a trajectory to that future, making long-term decisions that keep us moving in the right direction despite the buffeting winds that will try to take us off course. The greatness of this university today is the product of bold vision and investment of multiple generations. It is our duty to chart a pathway to sustain and build upon this foundation. We have an opportunity to become the best land-grant university in the world by focusing on our mission, building on our strengths, and living by *Ut Prosim*.

Although we don't yet know what specific course will emerge from this process, there is no doubt that significant new resources will be essential.

And while we are already among the most efficient, lean and productive universities of our peers by any measure, we must continue to identify opportunities to recover and reinvest both money and effort.

Even so, we will need the support of the friends of Virginia Tech to maintain and then build on our momentum. Some of that will be achieved by engaging our alumni in partnerships, mentorships, and internships, and some of that support will be from generous friends of Virginia Tech who share our passion for the critically important mission of this institution. You will not find pledge envelopes on your seat or at the door just yet, but you will have ample opportunity in the coming months and years to further engage with the people of Virginia Tech to better the world around us.

When I look at where we are now and where we need to be, two priorities emerge:

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First, we need resources to help us attract and retain our talented faculty and staff. We are in a global competition, and although many find Virginia Tech's special mission appealing, financial resources are essential for them to realize their dreams.

Second, we must focus on philanthropy to provide access to students who would not otherwise be able to experience Virginia Tech.

These two goals alone will drive us to at least double our 800 million dollar endowment by 2022. Indeed, we should be challenged to realize the bolder goal of two billion dollars by twenty-twenty-two. That will be only the beginning. Unless there is a major reversal in the public funding model for higher education, our endowment in 2047 will need to be about ten times what it is today.

Together, we can and will shape the vision for the Virginia Tech of 2047. A Virginia Tech that is a globally engaged service-to-humanity academy, where the human capital and talent committed to making a positive and lasting impact on humanity, will congregate under an ever-expanding Hokie tent.

In other words, the Virginia Tech of 2047 will be as close to its land-grant roots and as true to its values as the Virginia Agricultural and Mechanical College of 1872.

This is Virginia Tech's century. I am humbled to have been chosen to serve as your President at this extraordinary time. And I look forward to working with you on our journey together as we continue to build upon the spirit of *Ut Prosim*.

Thank you.