

Below are remarks made during the NYIT Presidential Installation of Hank Foley, Ph.D., on April 12, 2018, in New York City:

- Thank you to Babak, Samantha, Fred, Laura, Kristina, and Edward for your kind words.
- Thank you to Kevin Silva, chairman of the NYIT Board of Trustees, and to all members of the Board.
- And, of course, thank you everyone for being here this evening, including many distinguished friends and partners as well as members of the NYIT community. This week has been very special and very memorable.
- The outpouring of support has meant a lot to me, to Karin, to my family. Tonight, my father, Henry, is here, as is my sister, Anne, along with her husband and twin sons. I can't say it enough—Thank you.
- I am also indebted to my predecessors—past NYIT presidents Alexander Schure and his son, Matthew, as well as Edward Guiliano, for their respective roles in fostering and steering NYIT to where it is today. NYIT is poised for greatness because of their leadership in the past and our ambition for the future.
- I am honored, humbled, and privileged to be NYIT's fourth president.
- Tonight is a celebration of our potential, of what we can achieve as we move into the future together with a common vision, mission, and goals.
- So, you are what is known as a captive audience. I'll take it because all I want is your attention for just long enough to discuss our collective vision so that when we leave here, we can begin to bring it into reality. If we get that done, then your temporary captivity is worth it ... *really* worth it.

- My first impressions of NYIT continue to hold true. It's unique. And it's special. That really hit me Tuesday evening at the Faculty Scholars Reception, where I saw a tremendous outpouring of research and scholarship and we all came together as an institute to celebrate that work. We had talks on engineering, business, and biology, and what amazed me even more was that everyone stayed and listened! Other schools dream of doing that, but they don't. They are too big and too preoccupied with the business of research to spend time together as colleagues. But we do it and we will do it into the future.
- In the short 10 months since I started, I am inspired and thrilled by the enthusiasm I've seen for our mission and vision.
- As I said earlier this week at our inaugural kickoff ... and we've been saying this for quite a while ... the future is ours and that future begins with our people, especially our students, but also our faculty and staff. Our future is about people and creating a culture in which they thrive and succeed. Why? The answer is simple arithmetic: our institution's success is made up of the sum of the successes of our students, faculty, and staff. The more of you who succeed, the greater the sum of our successes.
- There were lots of things I aspired to do as the incoming president of NYIT ... but the first thing I wanted to do was to listen and to listen carefully to what you wanted NYIT to be.
- So, since my arrival, I've had *many* listening sessions and conversations, both formal and informal, with deans, VPs, and faculty, with students and staff, with alumni, and with our partners from business, government, and the community. Here is some of what I've heard and have learned:

- Like every organization, we have a mission—and that mission is to provide access to high-value, professional education at a fair price without too many frills, and, especially, to students who are hungry to succeed and who want to do well in life.
- This is a great mission and it is as relevant, and as important, today, as it was in 1955.
- Well, all right then, if that is our mission, then what is our vision for the future of this wonderful organization? Here is what you have told me:
  - First, we have to stay true to our mission and to get even better at what we do. We want more students to come to NYIT; we want it to become easier for them to do so over time and we want more of those who come to us to stay and to graduate.
  - Second, we need to become more engaged and active in research, especially in interdisciplinary research that is novel and important. We have a wonderful set of platforms upon which to build our interdisciplinary research enterprise: medicine, health sciences, engineering, architecture, arts and humanities, and business.
  - Third, we need to become even more engaged with the communities that we serve and to connect our students and faculty to these communities with even more exciting and useful projects for the benefit of all.
- So, the NYIT vision includes these:
  - We will grow, but we will not grow to be too large. We want to always be special, and to be special we have to be the right size.
  - We will be a Ph.D.-granting school with our first program to start soon and it will be at the nexus of medicine, health, engineering, and science. It will not be our last. And all of our research will be centered on human benefit.

- We will teach and educate with technology and prepare people for their professional careers by bringing more students into research and by engaging them even more with the communities who need us the most.
- The goal for all of this is to help more students lead better lives and to change the world. And by doing this, it will help ensure that NYIT is counted among the most highly respected and highly ranked institutions of higher education in the New York metropolitan area, Long Island, Vancouver, and Arkansas.
- Alright, you say, but as our leader, how will you help us achieve this? Well, it's all about people...
  - 1) We have to recruit and retain ambitious students from all walks of life and backgrounds, and we have to support them through graduation and beyond, into their professional careers.
  - 2) We also have to recruit, reward, and retain outstanding faculty in each of our schools and colleges.
  - 3) What about staff? The same: we have to recruit, reward, and retain them! Wouldn't it be great to be one of the best places to work in New York?
  - 4) What does leadership need to do? We need to support faculty and staff as they seek to excel at the integration of research, teaching, and service. That means ensuring they have the resources as well as the platforms to showcase their expertise. And we need to make the school responsive to our students.
- So, you see that the success we seek for NYIT will be first and foremost about people, it's about making each of our people successful at what they do!

- What else? To attract and retain great people, we have to build partnerships and community across the institute, among the faculty, the staff, the students, and our alumni, and we must recognize and reward them.
- In our teaching and curriculum, let's go even further and become known for something new. Let's be known for fostering in our students *critical creative thinking*, an integrated way of thinking that combines critical thinking with systems thinking and design thinking.
- We want our graduates to solve hard problems, to do so today and into the future. That requires all three modalities of thought. We aim to educate and to develop both sides of the brain!
- If we do this, we will fulfill our mission and our goals by reaching more students, providing them with an excellent education and preparing them for productive and successful lives.
- Let me turn for a moment to the future of technology and NYIT academics.
- In the video we just watched, I spoke about making NYIT into a school for doers, creators, inventors, innovators, and entrepreneurs. The new generation of leaders for a new world...
- Clearly, it is more important than ever to teach students how to develop and adapt to new technologies, but doing that is not enough.
- We also have to educate them to pause and to ask deeper questions like:
  - a. How does context change technological application?
  - b. When should a technology be used, if at all?
  - c. Who should be included in developing new technology?
  - d. What are the moral and ethical implications of new technologies?

- e. If all we teach our students is what they can do, then that is not enough; we must also teach our students to think about what they should do.
- Look at the very recent explosion of machine learning and especially artificial intelligence, which is now combined with the connectivity made possible through the Internet; it is changing the world and changing it at an ever-faster pace.
  - Yet, let's be honest, we don't know where we are going. That's both exciting and frightening—to all of us.
  - Witness this week that the founder and CEO of Facebook, Mark Zuckerberg, testified about his company's use and monetization of customer/user information. Much of what was done at Facebook was done automatically by apps using AI and machine learning. It seems the Facebook technologists were so enthralled with what could be done, the technology and the business came together in a way that swept them up. So, they did it and they continued to do more, but they seemed not to have paused and asked, should we do it?
  - Earlier this week, at our kick off celebration, in regard to the fearsomeness of AI, I referenced the words of Vladimir Putin and of the recently departed physicist Stephen Hawking.
  - Putin starkly put it this way: "Artificial intelligence is the future, not only for Russia, but for all humankind. It comes with colossal opportunities, but also threats that are difficult to predict. Whoever becomes the leader in this sphere will become the ruler of the world." Some of what he said is quite insightful, but his idea of connecting AI to world domination is frightening and, yet, possibly realistic.

- Hawking went even further. He said, “Whereas the short-term impact of AI depends on who controls it, the long-term impact depends on whether it can be controlled at all.”
- I am honestly not sure which of these two statements is more worrisome, but you see my point, we need to address these kinds of issues with students.
- The question of what can be done versus what should be done becomes increasingly important. This morning, we did just this with a symposium on blockchain technology. And by the way, a public blockchain could supplant Facebook as a social media platform and nicely!
- Today, we are building new machines that virtually think for themselves and that will soon think and work without us. If that sounds like science fiction to some of you, it’s not, it’s here, or very close to being here.
- Let me illustrate what I mean. Computers have been beating chess champions since 1997, when Garry Kasparov lost to IBM’s Deep Blue. I remember when it happened; I was working on expert systems at the time—heuristic decision support systems. To tell the truth, I was not that impressed. Why? Because Deep Blue did not play chess per se; it did not think, if you will. Instead, it did brute force look ups from a database of millions of previous games and moves and chose one of these as the next move based on a massive calculation of probable outcomes. Deep Blue was nothing like human chess masters playing the game—even if it could beat them. Deep Blue was a massive chess database with an optimizer bolted on. It did not and could not advance itself; the program only knew what was in its data base. It did not learn and it did nothing new.
- Let’s move from the game of chess to Go. Go is a game of strategy like chess played in China, Korea, and Japan. Whereas in chess, there are 20 possible opening moves (eight

pawns can move one or two squares and two knights can go left or right), in Go there are 361. In other words, Go is very complex.

- In 2016, a human world champion of Go lost a match to a computer program called AlphaGo. Here is why this is different from Deep Blue 20 years back. AlphaGo, an AI program, taught itself the game of Go with no human instruction. After 40 days of training and learning, it was ranked higher than any human player and it is likely that no human will ever defeat AlphaGo. It even devised new ways to play and to win. It's possible that AlphaGo will have to play against other machines in order to be challenged. Is this exciting or scary? It's both. It's sublime. Of course, machines finding new ways to solve problems can help humans unearth new breakthroughs and solutions for all of society, but they can do much more and, as Putin alluded to, that may not be benign or desirable once it is unleashed. So, along with the question of "What can we do?" we have to ask "What should we do?"
- What does that mean for us at NYIT? It is important that students understand how technology affects people. The field of human-computer-interaction becomes even more important than ever now as does the study of the effects of science and technology on society. It's important that those designing and implementing AI and machine learning keep the human and human implications in mind... and it's important to me that we study and teach this at NYIT.
- This is why I believe critical creativity is important to teach and for our students to learn. Their thinking needs to go beyond just what they can do; their thinking also must include a deep consideration of what they should do. We have the challenge of teaching this. And that is not easy.
- I focused here on AI but NYIT faculty, students, and alumni in all fields will be affected increasingly by nanotechnology, synthetic biology, even more AI, the Internet of Things,

machine learning, cybersecurity—or should I say “cyber-insecurity”—robotics, drones, and now blockchain technology.

- As a modern, 21<sup>st</sup>-century “polyTechnic++,” we have many rich opportunities and challenges before us and we are especially well-aligned to do unique multidisciplinary research that will inform our teaching well into the future. Perhaps this prospect is our unique value proposition to ourselves, to our students, and to society.
  
- So NYIT has lots to think about and lots to do.
  
- But let me conclude by sharing with you a few of the many points of pride I have in NYIT. Already in 2018:
  - 95.6% of our students are employed or continuing their education within six months of graduation.
  - A 100% match rate for graduates of NYITCOM; a 100% licensure pass rate for OT and PT grads; and a 97.6% pass rate for nursing grads.
  - No. 5 Highest Mobility Rate in the U.S. (Chronicle of Higher Education) and Top 25% salary potential for graduates (PayScale)
  - Among Top 30 Undergraduate Engineering Programs (U.S. News and World Report)
  - Highest percent of licensed architects in NYS are NYIT alumni
  - Top 5% of business schools worldwide with AACSB accreditation
  - #13 greatest racial and ethnic diversity in the U.S. (Chronicle of Higher Education)
  - #17 Best Colleges for Veterans (U.S. News and World Report)

- This is a strong foundation upon which we can build and lift NYIT. I look forward to working with the entire NYIT community along with new and existing partners from government, industry, and academia.
- Thank you again to everyone here tonight, the Board of Trustees, and the entire NYIT community for their trust and confidence in me. I am happy to lead this great institute into our collective future together.
- Let us embrace the possibilities ... and let us make the next 10 years truly ours!