

SPEAKING FROM EXPERIENCE

Q&A WITH PROVOST FADI P. DEEK

Appointed NJIT provost and senior executive vice president in June 2013, Fadi P. Deek brings a long association with NJIT and very diverse experiences to the job. Deek first came to Newark and NJIT from Lebanon in 1983 to continue his computer science studies. After completing a bachelor's in 1985, he went on to earn a master's in 1986 and a PhD in 1997 at NJIT.

Deek subsequently became a professor, serving in a number of administrative roles that included director of undergraduate computer science programs, founding chair of the information technology program, and associate dean of the College of Computing Sciences. He has also served as dean of the College of Science and Liberal Arts and interim provost. He has faculty appointments in two departments: Information Systems and Mathematical Sciences.

Recipient of a 2009 Alumni Achievement Award, Deek was profiled in the fall 2009 issue of *NJIT Magazine* (<http://magazine.njit.edu>). The profile describes his NJIT experiences, including meeting Maura McShane, the fellow student in computer science who would become his wife.

Following are thoughts that Provost Deek recently took the time to share with *NJIT Magazine*.

What changes have you seen at NJIT over the years that you've been here?

To begin with, you can't overlook the physical changes. Early this morning I walked over to the Warren Street Village. That's certainly a very big and recent change on that side of the campus. Then there's been the construction of Fenster Hall, the new Campus Center, more on-campus student housing, and the renovation of the beautiful Eberhardt building. Earlier, the Guttenberg Information Technologies Center, the expansion of Weston Hall as the College of Architecture and Design, the Enterprise Development Center buildings, and much more that has been built since I came to the university as a student.

I'm very excited to be part of renovating Central High School, now our Central King Building. We have the funding to create new 21st-century classrooms and laboratories. Within a year and a half, we should have the classrooms and laboratories on the third floor done, and the research laboratories on the fourth floor completed. Then we can work our way to the lower floors, including the thousand-seat auditorium. Imagine what can be done with that space. There's really nothing like the Central King auditorium in the area except for the Performing Arts Center. Perhaps a debate in the next Presidential election will be broadcast from this auditorium at NJIT. It's a dream, but who knows how this great space might be used in the future.

In what other ways has NJIT changed?

NJIT is a different university altogether. When I arrived in the 80s, Newark College of Engineering had been renamed NJIT roughly ten years before. But it was still NCE for the most part. Most students were majoring in engineering. Architecture was a small school. Computer science was the most prominent non-engineering degree program in the "Third College," which is what the College of Science and Liberal Arts was actually called at first.

The biggest component of the Third Col-
lege was the department I joined, Computer

and Information Science. It, too, became a college of its own, the College of Computing Sciences. The honors program became Albert Dorman Honors College. Another Third College department, Organizational and Social Science, was the seed of today's School of Management.

Of course, we also have a wealth of academic programs that weren't available thirty years ago, or even ten years ago. These include research-based PhD programs.

All of these changes created a brand new university in my opinion. The type of student we attracted became different, certainly at the graduate level. We were attracting part-time evening students working in New Jersey's industries. They came here once a week for a few hours and left. Now we have a comprehensive graduate program with full-time PhD students at work in their own laboratories.

What are some of the major challenges facing NJIT today?

For one thing, believing in ourselves. That's an important challenge, and important for improving our *US News* ranking. As you know, one very significant factor, or metric, in the *US News* rankings is how others see you – our peers, the presidents, provosts and others in the voting group. I think we need to do a better job of projecting how we would like to see ourselves as part of actually becoming a top-ranked university. We have not offered ourselves as a destination, as a place where people should come to look at what we are doing, collaborate with our faculty, or attend a conference. The Mathematical Sciences group has done this consistently, and thus have national recognition. They've made themselves into an academic destination.

I experienced this from a totally different indicator, enrollment. When I was in the former Department of Computer and Information Science, I knew that to increase enrollment we had to bring people to campus to see that this is a vibrant and safe place, that we have the right equipment, the right

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facilities. So we started holding conferences for high school teachers to discuss curricular standards for computer science education and to promote greater awareness of what NJIT has to offer.

Every summer we would have over a hundred teachers from high schools on campus. Almost unanimously, the reaction was “We had no idea that this place existed.” Most people thought that NJIT was just a building or two in Newark. And these are local people in New Jersey. We need to change that perception, and the best way to do so is to invite as many people as possible to our home. We must be welcoming.

But as we attract and enroll more students, we also have to improve our retention and graduation rates. They’re considerably lower than they should be.

Why are graduation and retention such challenges?

For various reasons — we are hemorrhaging students from the science, technology, engineering, and math (STEM) pipeline in this country, which is already anemic. Less than five percent of all US bachelor’s degrees awarded yearly are in engineering versus approximately twenty percent throughout Asia, and more than thirty percent in China alone. That many enrolled students in the US fail to graduate makes this situation worse. We need to address the fact that so few students in our country choose STEM majors, and that many of those who opt for such majors do not complete their studies.

Even many of the students who come to NJIT because they know the potential of STEM careers have the ingrained attitude that much of what they need to study is barely doable, that it’s boring. You can’t change this attitude in only four years. That is one reason NJIT has created teacher-preparation programs in STEM fields, and sponsors K-12 initiatives which include professional and curriculum development. What is at stake makes it critical to try. What is at stake is actually the well-being of our country.



PHOTO: BUD GLICK PHOTOGRAPHY

What positive steps can we take?

I agree that some subjects are hard, and maybe even dry. But they can be taught much more effectively, in more interesting ways at every level. At NJIT, we’re working to help students be more successful through initiatives like our Learning Communities program, Student Success Center, and Institute for Teaching Effectiveness. We’re working to create vibrant communities of successful STEM learners.

Then there’s one solution, or strategy, that’s obvious but which we really haven’t done as much as we should to implement. The STEM pipeline is populated largely with male students. Just imagine if it were to be as attractive to women. You could immediately double the number of students pursuing STEM degrees.

I think there are countries we compete with which are more progressive in this respect. Perhaps they understand better than we do that the well-being of society requires participation by all. For the past few years in this country, entering college classes have been more female than male. Increasingly, women understand that going to college will allow you to do better in life. Now we need to make sure that their understanding goes a bit further, that attending college to study a STEM discipline is much better than just going to college.

Think about what it would mean if over the next decade we could make significant progress toward bringing in a freshman class that’s half women. Perhaps I’m just dreaming again. But some dreams can come true, right?

“ACHIEVING OUR GOALS
WILL DEPEND ON EVERYONE’S
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ASPIRATIONS, AND
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PHOTOS: RICKY KHARAWALA

What else is ahead for NJIT?

I hope you don’t mind if I read the conclusion from NJIT’s Academic Plan 2013-2015: “NJIT will be one of the leading universities of science and technology in the country. Dedication by the entire university community will make it so.”

That’s really quite a challenge. But what does it mean to be a leading university? Over the past few decades, as I mentioned, NJIT has been transformed from a local engineering school that primarily served student commuters into New Jersey’s science and technology university. While we’re in the top tier of US ranked universities, we aspire to recognition as a top 100 university in national rankings.

To reach this goal, we must become a nationally recognized center for both

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education and research. We must be a place where students come to succeed and find inspiration to push the limits of science and technology, and where faculty set a standard for research and scholarship that makes them leaders in their fields.

NJIT must also become a leader in digital learning to meet the expectations of the “iGeneration,” the students for whom instant communication and access to the shared knowledge of the Internet is second nature.

Is serving the iGeneration a special challenge?

It requires breaking down barriers between the physical campus and virtual campus to create a fully digital learning environment without a distinction between face-to-face and online learning. We’re starting to do this.

To be candid, we went through a phase over the past ten or fifteen years where education in the classroom and online were actually at odds. You might even say they clashed. We talked about online learning as if it were so categorically different that it had to exist in some remote educational world of its own, really apart from other learning experiences. But we’re on a different track now, toward seamless integration. The student in a classroom here at NJIT or in another country will be able to share the same educational experience through the digital facilities we will have in place.

For example, we will not think in terms of creating new online master’s programs. They will simply be master’s programs, and students will be able to study for the degree in the way that suits them best – on campus, online at home after work, or online while traveling. We will give students the ability to switch very easily among any of the options available as their personal situation changes or if they find that they prefer a particular option.

We will make this happen, just as we will promote student success and university recognition, and make NJIT a place that all graduates will remember for excellence and energy. But achieving our goals will depend on everyone’s ideas, everyone’s abilities, everyone’s aspirations, and everyone’s contributions. That’s the most fundamental lesson that I’ve learned from my experiences over the years. I really believe this. ■