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Nuts-and-bolts focus sets Wentworth apart

By Callum Borchers | GLOBE STAFF OCTOBER 19, 2014

On a sunny afternoon in late September, Zorica Pantic, the president of Wentworth Institute of Technology, halted her stroll through the campus quad. A group of female students was holding a bake sale to help fund a trip to Los Angeles for the annual conference of the Society of Women Engineers.

In the background young men tossed a Frisbee while other students studied on the grass. The whole scene looked like a brochure for one of the city's more celebrated academic institutions, and a visitor on tour with Pantic joked that it must have been staged.

WENDY MAEDA/GLOBE STAFF

Wentworth Institute of Technology president Zorica Pantic said she spends a lot of time figuring out how to attract more women to the school into engineering. "We need to put role models in front of girls to show them they can do it."

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"You're right — it does look that way," she replied, laughing. "But it really is like this."

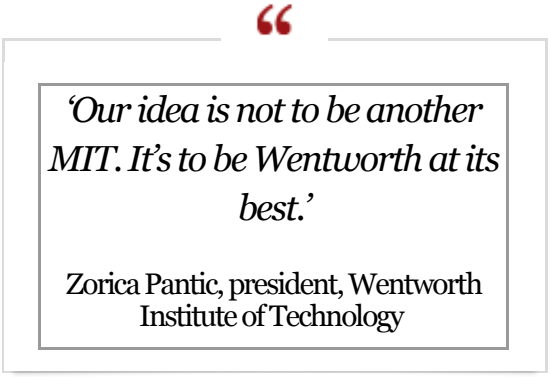
This bright, ambitious portrait of Wentworth is precisely what Pantic envisioned nine years ago when she became the college's first female president. Long known as a commuter school for students who couldn't afford — or get into — other area colleges,

Wentworth is rapidly raising its profile.

Wentworth has grown to 19 from 11 undergraduate majors three years ago and built new computer, manufacturing, and materials science centers collectively known as the "high-tech highway." Most of its nearly 4,000 students live on campus these days, including a lucky 305 in a gleaming, $44 million apartment building that opened this fall.

The school also has cracked US News & World Report's regional college rankings, rising in the latest edition to 12th in the north among nonliberal arts schools focused on undergraduate education. Yet Pantic says she isn't out to conquer the world — just to supply the designers, architects, and engineers who form the backbone of the state's innovation economy.

"Our idea is not to be another MIT," Pantic said. "It's to be Wentworth at its best."



Wentworth at its best looks a bit like a job factory. It may not produce the PhD who discovers the next miracle drug therapy, but it graduates plenty of biomedical engineers who can help bring new medicines and treatments to market.

Six months after the class of 2013 graduated, 88 percent were employed (most of the others were in grad school), according to an alumni survey — and they were earning salaries that averaged almost $51,000. Three in four were working in Massachusetts.

For perspective, the Massachusetts Institute of Technology reports that 57 percent of students earning bachelor's degrees go straight into the workforce. The rest are probably brilliant, but their impact on the economy will have to wait.

"Our employers love to see schools getting students excited about STEM [science, technology, engineering and math] careers in business" said Greg Bialecki, state secretary of Housing and Economic Development. "I hear employers saying they hire a

lot of Wentworth grads and love them."

Wentworth Institute of Technology was founded in 1904 by bequest of Arioch Wentworth, who made a fortune in marble by building machinery that could cut and fashion stone into ornate designs.

A technical school for decades, Wentworth began awarding associate degrees in 1957 and bachelor's degrees in 1970.

Five years ago the school launched its first graduate program and now offers four master's degrees, in architecture, construction management, facility management, and technology management.

For all the advances, Wentworth has not gone down the road of its neighbor on Huntington Avenue, Northeastern University, which now considers research one of its pillars, along with its cooperative education program. Wentworth has kept its focus squarely on practical experience in classroom and real-world environments, hewing closely to its original mission to churn out skilled workers.

"It's definitely tricky because the caliber of student goes up every year," said computer science professor Charles Wiseman. "But we attract some students who could have gone to a top-tier engineering school and choose Wentworth because they want the hands-on experience they'll get here."

For Pantic, who led the formation of three doctoral research programs as founding dean of the engineering school at the University of Texas at San Antonio, Wentworth's focus on practical application rather than research was a big change. Wentworth plucked Pantic from San Antonio in 2005.

"Frankly she went through a learning curve," said Michael T. Anthony, who chairs Wentworth's board of trustees. "But what she brought right away was a great skill set in external relations. In the past we had done a good job of managing cash flow, managing programs, but we didn't have the close ties to community organizations, local, state and federal governments, and our peers that we do now. We were looking for someone who could deliver that."

Pantic came to the United States in 1984 as a Fulbright fellow from the former Yugoslavia, after growing up in the region, now country, of Serbia. Her father was an engineer, and she decided at age 7 that she would be one, too.

She earned three degrees in electrical engineering at the University of Nis in her home country, capped by a doctorate in 1982, before the Fulbright took her to the University of Illinois at Urbana-Champaign for postdoctoral research in applied electromagnetics.

Now at ease in a hands-on educational setting, Pantic has Wentworth's employment pipeline flowing when virtually everyone from Lockheed Martin Corp. to President Obama laments a dearth of skilled workers in the United States. At current rates, the president's Council of Advisors on Science and Technology predicts the US economy in 2022 will suffer from a shortage of 1 million college graduates with degrees in STEM fields.

These are the sorts of trends Pantic reads about daily during early morning sessions on her stationary bicycle, where she scans news reports on her smartphone. And the exercise shows.

At 63, Pantic is fit and trim, able to wear a fitted scarlet blazer. During the bake sale she resisted the red velvet cupcakes.

But she ate up the female students' efforts. Pantic said she doesn't give much thought to the anomaly of being a woman in charge of an engineering school, but spends a lot of time considering how to draw more women into the field.

Female enrollment has roughly doubled to 20 percent at Wentworth during her tenure, in line with national engineering averages.

"Girls often lose confidence in middle school and don't pursue the appropriate courses to move ahead into STEM careers," Pantic said. "The other important thing is role models. We need to put role models in front of girls to show them they can do it."

Wentworth regularly hosts Girl Scout troops and middle school science clubs to plant the engineering seed in girls' heads. Jenna Jacobs, vice president of the Wentworth chapter of the Society of Women Engineers, said the college's female students appreciate a woman engineer in the corner office.

"It's really helpful to have powerful leaders like Zorica," said Jacobs, a junior majoring in mechanical engineering. "They stand behind us, help us go to places like L.A., and help us network."

Continuing her jaunt across Wentworth's 31-acre campus, Pantic didn't get far without stopping to chat with another student, Alex Schwarzkopf, a fifth-year electromechanical engineering major. Schwarzkopf recently completed a summer internship at Tesla, the electric car maker, where he worked on improving vehicles' charging systems.

"I was managing three or four projects at a time," he said of his time in Palo Alto. "I wouldn't have been able to do that without my previous work experience that I got through Wentworth."

Back in her office, Pantic considered Wentworth's future. More advances are surely coming, including new graduate programs in civil engineering and applied computer science, planned for next year.

But just as surely, she said, one thing will remain constant: Wentworth won't be educating "theoretical engineers" — a pejorative term on the campus.

"This economy of the 21st century," she said, "is a 'makers and doers' economy."

Wentworth's growth

Over the last four years, Wentworth has introduced eight new undergraduate majors. Six of those are within the engineering track. The new majors are as follows:

■ Biomedical engineering (Introduced Fall 2011)

■ Interdisciplinary engineering (Introduced Fall 2011)

■ Civil engineering (Introduced Fall 2011)

■ Electrical engineering (Introduced Fall 2011)

■ Mechanical engineering (Introduced Fall 2011)

■Computer engineering (Introduced Fall 2012)

■Applied mathematics (Introduced Fall 2012)

■Computer information systems (Introduced Fall 2013)

Over the last six years, Wentworth has become a masters-level degree granting institution by introducing four master's degree programs including:

■ Master of architecture (Introduced Fall 2009)

■ MS in construction management (Introduced Fall 2010)

■ MS in facility management (Introduced Fall 2012)

■ MS in technology management (Introduced Fall 2014)

Wentworth: By the numbers

96%: Employed or in grad school six months after commencement

43%: Offered jobs by former co-op employers

$50,965: Average starting salary

72%: Working in Massachusetts

SOURCE: Wentworth Institute of Technology class of 2013 survey

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