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Our Home is an R&D Powerhouse

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Our Home is an R&D Powerhouse



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Monday August 6, 2018

By Eric F. Spina

“Alex, I’ll take research powerhouses for \$200.”

Not only could I ace this category on “Jeopardy!” but I could also draw well-deserved attention to the University of Dayton Research Institute, whose growth has helped propel UD to a record \$150 million in annual sponsored research and impressive research rankings. The University of Dayton’s excellence is measured by a trait that sets us apart from other research universities — our Marianist pragmatism. Every day, our researchers and faculty take science and technology out of the lab and into practical applications that serve the common good.

But how many people really understand the depth and breadth of our research-and-development enterprise? For fun, let’s take my Jeopardy! challenge:

It sits on the banks of the Great Miami River in a transformed former Fortune 500 headquarters.

Hans von Ohain, the co-inventor of the jet engine, and Karl Strnat, developer of rare-earth permanent magnets, finished their careers here.

It powers a university without a medical school to the eighth-ranked spot in sponsored research and development among private universities.

Its researchers have turned algae into clean and renewable energy, tested “black boxes” to certify their survivability in airplane crashes, and created a better way to keep take-out pizza hot during deliveries and vaccines cold in developing countries.

This research institution is the national runner-up, ranking second in the country in all sponsored materials research and development.

“Alex, what is the University of Dayton Research Institute?”

Correct! UDRI is an agile, responsive R&D organization that relies on an outstanding workforce, strong leadership — and collaboration with faculty and students — to develop solutions that meet the needs of our world. It is an essential part of our Catholic, Marianist university.

In the last four years alone, UDRI has seen an unprecedented 60 percent revenue growth. More than half of its 570 employees — many in high-paying research jobs that benefit the local economy — were hired during that stretch. It's a tremendous success story that has raised our prestige as one of the nation's most active research universities. In addition, 284 undergraduate and graduate students work alongside researchers and faculty, who truly engage our young scholars in ways that make their résumés stand out.

The projects range from multi-million-dollar contracts to small grants, such as software engineer Kelly Beigh's promising use of neurofeedback to help drug addicts reduce cravings. In a project that will benefit the Air Force, I recently visited a UDRI demo lab and tried my hand at using a laser-based system to economically strip paint from an aircraft in an environmentally friendly way.

Elsewhere on campus and in the labs of our federal partners, our researchers are using reverse engineering techniques to replace obsolete aircraft components in the Air Force's aging fleet — an effort focusing squarely on safety and reliability. Through the work of FastLane, part of a network created by the state of Ohio and National Institute of Standards and Technology, we're helping small and medium manufacturers in the Dayton region accelerate technological advances — and their own growth.

More examples of the ways our UDRI and faculty researchers are making a difference in the world can be found in [Momentum](#), an e-magazine filled with stories of research and scholarship.

Take a look and see if you don't agree with me: the University of Dayton is an R&D powerhouse.