

NEW DISCOVERIES

Research fueling VCU's rise

Recently, Virginia Commonwealth University crossed a milestone: We became one of the top 50 public universities in the United States for research.



**P. SRIRAMA
RAO**

This achievement matters for several reasons. The National Science Foundation ranking shows where VCU stands related to our peers – the NSF ranks some 400

public colleges and universities. And it reflects how far and fast we've come. Our research work is showing some of the fastest growth among Virginia universities, which means our impact is growing rapidly as well.

That's why NSF Director Sethuraman Panchanathan visited VCU earlier this month, touring our lab facilities and talking to faculty and students about how the NSF and VCU's mission bring together talent

and ideas critical to the future. While here, he said he considers VCU one of the national universities that "matter for the future."

VCU's research reflects our commitment to pursuing impactful research that makes discoveries, tackles our greatest challenges, addresses opportunities for all people, reduces disparities and lifts lives. In 2022, we had \$405 million in sponsored research – a 49% increase in just five years – with funding directed toward learning and discovery.

It also reflects our commitment to increasing access to education for the missing millions of people from underrepresented backgrounds who have the potential to excel in the sciences, technology, engineering, medicine and the arts but do not have access to the pathways to reach those careers.

Our research can improve

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lives and change the world – ultimately, that’s why we do it. We are in a unique position to influence the long-term economic, social and physical health and well-being of the communities and people we serve.

While we’re interested in supporting the individual research interests of our faculty, at a broader level, what we truly want is to solve societal problems.

In this, VCU is not alone. Across the country, universities conduct the majority of basic research. The private sector often builds on that research by developing practical ways to use it.

But universities, too, are innovating and inventing – taking our discoveries to the marketplace. That’s an important step – turning our research into tangible ways to help people. In 2022, we filed 144 patent applications, had 18 patents issued and launched 10 startups – an all-time high for VCU. The national average is only four.

These make a real difference to our community – home to 10 new startup companies – and to our neighbors.

For example, let me cite two innovations that have come out of VCU research:

One is an olfactory implant – a so-called “bionic nose” – similar to a cochlear implant, that would help people who have lost their sense of smell, which happened to many people due

to COVID-19. The models show promise in helping those people sense smells again.

A VCU researcher has also invented “nerve tape,” which helps surgeons align severed nerves back together. Nerve tape just received FDA clearance.

VCU has a strong history of research, and we’re proud to see that reflected not just in traditionally research-intensive fields like medicine, but also across the humanities and arts and sciences. We’re doing groundbreaking research in areas like spinal injuries; reducing the backlog of rape kits; housing and eviction; and STEM education. We’re discovering ways to track forest carbon cycling, improve cybersecurity and develop safer reactors.

VCU’s School of Education’s

research funding has grown from \$24 million in 2016 to \$37 million in 2022. Education research is helping us strengthen science learning in urban middle schools and how to better address the needs of children whose classroom behavior is challenging.

And we’re doing high-profile pharmaceutical engineering work through the Medicines For All Institute – bringing U.S.-made, lower-cost medicines to our communities, reducing costs for individuals and making our national medicine supply chain stronger and safer.

We’re purposely engaging students, both graduates and undergraduates, in research work – in fact, last year, we saw a 22% increase in undergraduate participation in research proj-

ects. Involving undergraduate students in research gives them the foundation for impactful careers – and many of them will stay in Virginia, positively influencing our community and our commonwealth.

At VCU, we are building a culture of collaboration and training the next generation of researchers. We continue to build the research infrastructure needed to give our students the best education possible, and to support our researchers in making new discoveries that will benefit people here in Richmond and beyond.

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