

Bowles Rice

VIEWS & VISIONS

BOWLESRICE.COM

SPRING/SUMMER 2023

Leveraging Cutting-Edge Biomedical Research at Pitt BioForge



Anantha Shekhar
University of Pittsburgh

Anantha Shekhar, MD, PhD, is Senior Vice Chancellor for the Health Sciences and John and Gertrude Petersen Dean of the School of Medicine at the University of Pittsburgh. At Pitt, Dr. Shekhar leads all six health sciences schools, which, for more than a century, have led education and research in their respective fields, propelling scientific discovery and clinical innovation that advance human health. His responsibilities at the University of Pittsburgh include shaping the careers of more than 6,000 faculty and staff members, as well as the academic success of approximately 5,000 students annually, all while supporting Pitt's position as a top-ranked recipient of National Institutes of Health (NIH) research funding.

The University of Pittsburgh, supported by a \$100 million grant from the Richard King Mellon Foundation – the nonprofit's largest single-project investment in its 75-year history – is rapidly advancing its plans to fill in a vital missing link in the region's economy. The University intends to build a 170,000-square-foot specialized biomanufacturing facility on an old brownfield site in Pittsburgh's Hazelwood neighborhood. Called Pitt BioForge, this facility will leverage the cutting-edge biomedical research conducted at Pitt and the world-class clinical care offered at the University of Pittsburgh Medical Center (UPMC) to compress the timeline from clinically relevant research findings to commercial development and application in patients.

emerging specialty pharmacy market, which is expected to double over the next five years, generating more than \$200 billion in new gross margin for biopharma in the U.S. alone. Nearly every pharmaceutical manufacturer has specialty therapies in its pipeline, and it is universally accepted that the specialty marketplace will continue to see significant growth in demand, revenue, and overall pharmaceutical utilization. However, producing biotherapeutics at scale is a complex undertaking, involving harvesting patient-derived materials matched with rigorous production standards. As a result, most experts agree that this opportunity is optimally realized by biotherapeutics companies with strong academic research partnerships.

“We see a unique opportunity to leverage our scientific and clinical innovations to enable Pittsburgh to become a leader in this biotherapeutics revolution.”

Biomanufacturing is exploding across the country, yet there is no dedicated facility in Pittsburgh, and only a select few worldwide that can create the tools required to advance gene and cell therapies to application in humans. Biomanufacturing uses biological systems (cells and genes) that have been engineered to produce more effective therapies. There are currently thousands of clinical trials across the nation employing these new cell and gene therapies, and Pitt researchers will soon have access to advanced biomanufacturing in their backyard. These new biotherapies are part of the

The success and promise of cell and gene therapies, along with the research explosion in the wake of COVID, has fostered an unprecedented demand for advanced biomanufacturing and specialized laboratory space, creating a life science land rush. This demand is particularly high in the leading life science hubs (Boston, San Francisco, and Baltimore, to name a few), and other regions are exploring their options. To compete in this new field, Pittsburgh must act, and act now.

The University of Pittsburgh has long been a leader in biomedical research and currently



ranks third in the nation in research support provided by the National Institutes of Health. Pitt BioForge will transform the University's life sciences innovation ecosystem by focusing on cell, gene, and novel biotherapeutic techniques. And it will provide a home for collaborations across biomedical research and advanced manufacturing to transform biomanufacturing practice and develop the region's future workforce.

We see a unique opportunity to leverage our scientific and clinical innovations to enable Pittsburgh to become a leader in this biotherapeutics revolution. Specifically, we will create an advanced manufacturing ecosystem that will provide an industry standard biotherapeutics production facility, combined with an academic collaboration ecosystem. Pitt BioForge will not only develop novel product ideas but also create the next generation of manufacturing process innovations.

The capacity to create personalized, patient-ready treatments and therapies will support homegrown companies spun out from the University, draw companies into the region, and create an innovation environment to keep Pitt's growing roster of biomedical

startups from spinning too far away. Pitt-developed therapies for a range of disorders and diseases, from vision loss to cancer, will get a turbo-boost from the presence of Pitt BioForge. And Pittsburghers in need of such treatments will also benefit. Wherever the manufacturing capabilities are, the hospitals or universities in the region will have first dibs on getting access to the products and testing them in their patients.

The location for the facility, Hazelwood Green, is a 178-acre former industrial site that was purchased more than a decade ago by the Claude Worthington Benedum Foundation, the Heinz Endowments, and the Richard King Mellon Foundation. That group of charitable foundations, collectively known as Almono, envisions the site as a focal point for economic revitalization, and the Green is now



being developed as a mix of office, retail, research, and community space. We are partnering with Hazelwood leaders, the Almono group, and residents to ensure that the local community reaps the benefits of these changes.



Pitt researchers are already making discoveries in basic and clinical sciences, targeting a wide range of diseases, and Pitt BioForge will accelerate those efforts. This new facility will help nucleate activities that translate discoveries into commercial enterprises, job growth, and wealth creation. In turn, this environment will make Pittsburgh a significant contributor to far-reaching scientific advancements and global health. ▽