



FOR IMMEDIATE RELEASE
Thursday, April 23, 2020
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Roswell Park, Catholic Health, University at Buffalo Unite to Answer Question: Who Will Develop Severe COVID-19?
\$150,000 from 11 Day Power Play kicks off fund to support one of the first precision-medicine studies of new virus

- Team to seek clues in immune cells, sequencing patients' T & B cell receptors
- Goal: Develop blood test to predict who will develop severe COVID-19 illness
- Thermo Fisher Scientific to defray costs of sequencing technology, materials

BUFFALO, N.Y. — Western New York healthcare and medical research leaders are joining forces in an effort to uncover hidden information from the cells of those who have been exposed to the novel coronavirus, seeking insights on how best to care for those who develop COVID-19 illness. Called the Western New York Immunogenomic COVID-19 Study, the new initiative unites three leading regional healthcare organizations — Roswell Park Comprehensive Cancer Center, Catholic Health and the University at Buffalo — in a project with great potential for advancing our understanding of COVID-19 for the benefit of patients worldwide.

The WNY Immunogenomic COVID-19 study originated from an exchange between two senior leaders at Roswell Park: [Kunle Odunsi, MD, PhD, FRCOG, FACOG](#), and [Carl Morrison, MD, DVM](#). These two physician-scientists quickly built a plan to help control COVID-19 based on their complementary expertise in cancer immunotherapy and genomics, or precision medicine, enlisting both regional and industry partners — one of the first such efforts anywhere.

“We believe we can limit COVID-19’s deadly impact by marrying thoughtful strategy to next-generation sequencing technology — an opportunity that we never had before with any previous pandemic, using technology that in a few short years has changed the way we detect, diagnose and treat cancer,” says Dr. Odunsi, Deputy Director, the Robert, Anne & Lew Wallace Endowed Chair in Cancer Immunotherapy, and Chair of Gynecologic Oncology at Roswell Park.

“No two people are alike — down to our immune cells, and we see this in the way people are responding differently to infection with COVID-19,” says Dr. Morrison, who is Senior Vice President of Scientific Development and Integrative Medicine at the cancer center. “We’ve seen a huge variation in how COVID-19 affects people. Some are not sick at all, some get flu-like symptoms for a few days, and some become very sick and develop symptoms that can become life-threatening. What if we could predict when people contact COVID-19 which of these groups they will fall into?”

The team will use next-generation sequencing to identify biomarkers of immune response to COVID-19 that can be used to predict which patients are likely to progress to severe infection that would require more intensive care. The goal is to provide medical professionals everywhere with a blood test that will help them to better prognose and triage patients with COVID-19, potentially saving lives and supporting the most effective and efficient use of resources.

Three collaborating organizations will work with Roswell Park as essential partners in the effort:

- [Catholic Health](#) will join Roswell Park as a clinical site for the study, providing blood from consenting patients who test positive for COVID-19 to be sequenced and analyzed.
- The [University at Buffalo](#), through its Jacobs School of Medicine and Biomedical Sciences and School of Pharmacy and Pharmaceutical Sciences, will collaborate as an academic partner, focused on the interface of virus-cancer-immunology research initiatives that will help facilitate the study.

- [Thermo Fisher Scientific](#), which manufactures Ion Torrent gene sequencers and OncoPrint immune-repertoire assays to be used in the study, will provide data analysis and defray the costs of the equipment and chemical reagents that are central to this work.

“From our COVID-19 Treatment Facility at St. Joseph Campus to our new Post-Acute Center and the work going on throughout our system, Catholic Health is leading the fight against this pandemic on several fronts in our community,” says Hans P. Cassagnol, MD, MMM, FACOG, CPE, Executive Vice President, Chief Clinical Officer & Chief Physician Executive, Catholic Health. “We are pleased to join our distinguished partners in this study, which can help relieve the COVID-19 disease burden on our community and its caregivers, while giving us one more weapon to save lives and improve outcomes for patients everywhere.”

“As director of UB’s Global Virus Network Center of Excellence, I have the opportunity to work with local and regional COVID-19 investigators and health care providers, while also facilitating research collaborations with international experts who are confronting the COVID-19 pandemic,” says Gene Morse, PharmD, SUNY Distinguished Professor, UB School of Pharmacy and Pharmaceutical Sciences, and Director, Global Virus Network Center of Excellence at UB.

Dr. Morse is building scientific collaborations that focus on the interface of virus-cancer-immunology research initiatives that will help facilitate the study. He will examine the blood samples of COVID-19 patients for immune-pharmacodynamic markers to quantify antiviral and immune-therapeutics activity in relation to the stages of COVID-19 infection and the development of antibodies following infection.

“Studying the diversity of the repertoire is critical to powering the science community’s understanding of immune development and immune response to coronavirus and, ultimately, to develop a safe and effective vaccine,” says Andy Felton, PhD, Vice President of Product Development, Clinical Next Generation Sequencing and Oncology at Thermo Fisher Scientific. “We are pleased to participate in this important study and provide our assays and next-generation sequencing platforms that will enable it.”

The team will sequence immune receptors from both T cells and B cells, the two major types of immune cells our bodies enlist in order to fight off viruses like SARS-CoV-2, the particular coronavirus that causes COVID-19.

“Together, the repertoire of T and B cell immune receptors could determine a person’s immune signature for COVID-19. With the tools available today, we can look at them with incredible accuracy to find clues to how the virus behaves in different bodies,” notes Dr. Morrison.

A fund has been established to support this innovative and promising initiative, with [11 Day Power Play Inc.](#), a nonprofit that raises fund for pressing medical research, providing a leadership gift of \$150,000 toward the project’s estimated cost of \$1 million.

“The 11 Day Power Play organization has always supported the cutting-edge cancer research performed at Roswell Park. The research they are doing in immunotherapy amid this pandemic has the greatest potential to save lives. On behalf of the 11 Day Power Play community, we are proud to help launch this critical research,” says Amy Lesakowski, Co-Founder and Executive Director of The 11 Day Power Play.

“This is science that can’t wait,” says Dr. Odunsi. “We have an opportunity to quickly generate knowledge that doesn’t exist yet, information that could save many, many lives. But the scope and pace of our progress will depend on support from both inside and outside our community. We hope that like us, people who learn about this project will not be content on the sidelines but will instead choose to actively support and advance this work.”

Funds donated to Roswell Park’s COVID-19 Response Fund can be earmarked to support this effort. Please read more at [Introducing the Roswell Park COVID-19 Response Fund](#) or go to give.roswellpark.org/COVID-19.

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For an online version of this release, please visit: <https://www.roswellpark.org/newsroom/202004-roswell-park-catholic-health-university-buffalo-unite-answer-question-who-will>

About Catholic Health:

Formed in 1998, Catholic Health is one of the largest providers of healthcare in Western New York State. As the region's top integrated health system and quality leader, its network includes four hospitals on five campuses; eleven primary care centers; four long term care facilities; three home care agencies; and numerous diagnostic, treatment, rehabilitation, and specialty services. Its more than 9,000 associates and 1,500 physicians are part of a Catholic-sponsored, healing ministry dating back more than 160 years. Among its many services, Catholic Health is known for excellence in cardiovascular care, stroke care, women's services, orthopedics, and rehabilitation.

About Thermo Fisher Scientific:

Thermo Fisher Scientific Inc. is the world leader in serving science, with annual revenue exceeding \$25 billion. Our Mission is to enable our customers to make the world healthier, cleaner and safer. Whether our customers are accelerating life sciences research, solving complex analytical challenges, improving patient diagnostics and therapies or increasing productivity in their laboratories, we are here to support them. Our global team of more than 75,000 colleagues delivers an unrivaled combination of innovative technologies, purchasing convenience and pharmaceutical services through our industry-leading brands, including Thermo Scientific, Applied Biosystems, Invitrogen, Fisher Scientific, Unity Lab Services and Patheon. For more information, please visit www.thermofisher.com.

About the University at Buffalo:

The University at Buffalo is a premier research-intensive public university, the largest and most comprehensive campus in the State University of New York. UB's nearly 30,000 students pursue their academic interests through more than 300 undergraduate, graduate and professional degree programs. Founded in 1846, the University at Buffalo is a member of the Association of American Universities.

About Roswell Park:

Roswell Park Comprehensive Cancer Center is a community united by the drive to eliminate cancer's grip on humanity by unlocking its secrets through personalized approaches and unleashing the healing power of hope. Founded by Dr. Roswell Park in 1898, it is the only National Cancer Institute-designated comprehensive cancer center in Upstate New York. Learn more at www.roswellpark.org, or contact us at 1-800-ROSWELL (1-800-767-9355) or ASKRoswell@RoswellPark.org.