Team Fleur FemTech wins annual Novel Tech Challenge

May 11, 2022 9:15 AM Barri Bronston
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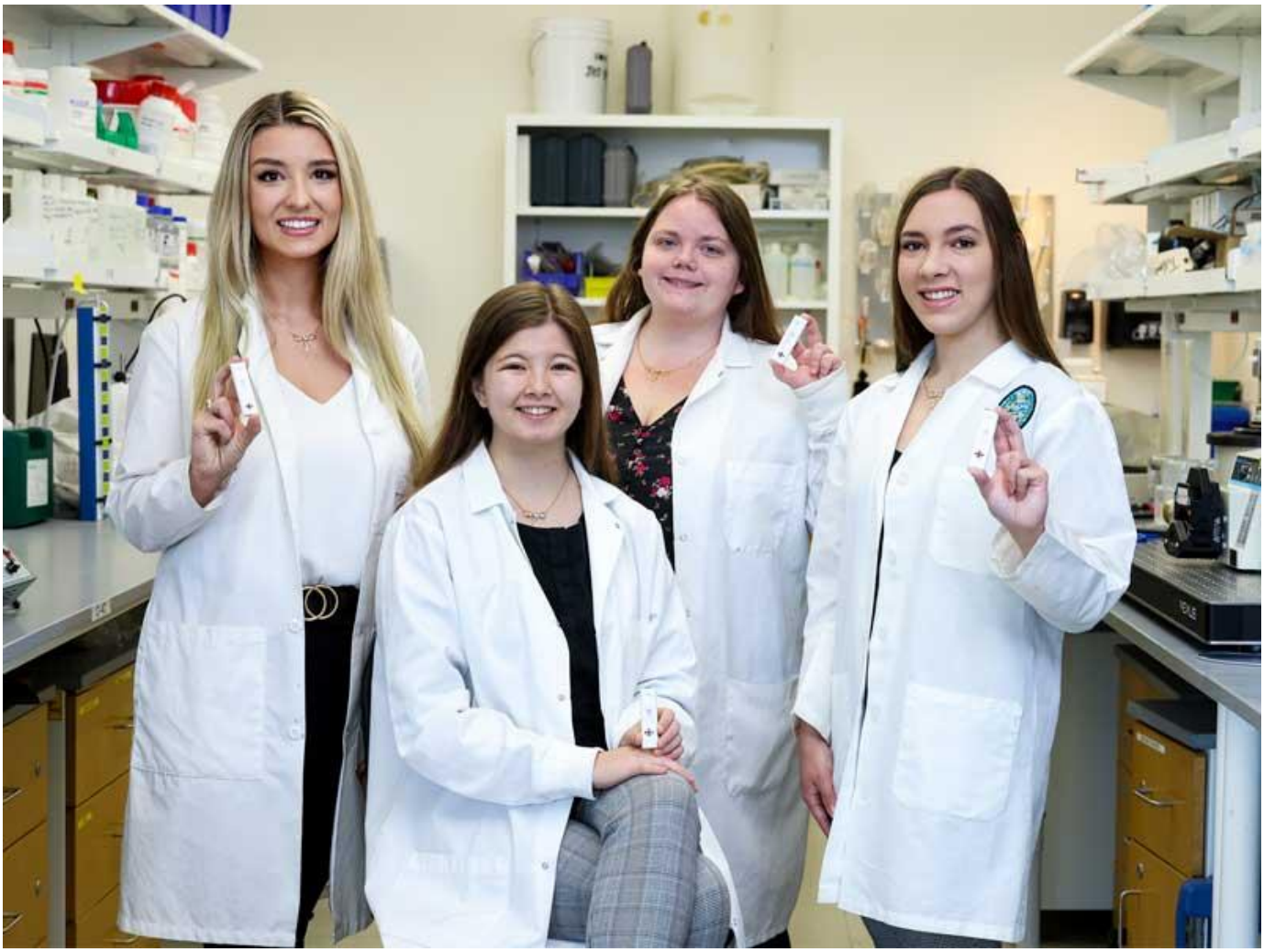

Graduate student Arya Monticino, left; sophomore Jasmine Kiley, seated; PhD candidate Shelby White, second from right; and junior Alexis LaRosa display their Novel Tech Challenge winning product — a home-use test to detect endometriosis. (Photo by Rusty Costanza)

When Shelby White, Arya Monticino, Alexis LaRosa, and Jasmine Kiley, all students in the Tulane University School of Science and Engineering, joined forces to enter the Eighth Annual Novel Tech Challenge, they knew they wanted to design something

for women with limited access to health care.

In their preliminary research, they discovered that approximately 10 percent of American women of childbearing age suffer from endometriosis, a gynecological condition that causes severe pelvic pain and sometimes infertility. Endometriosis can take an average of 10 years to diagnose, and they wanted to find a way to shorten that timeline.

They decided to design a home-use test to detect the disease. Their team, named Fleur FemTech, developed a tool that utilizes lateral flow technology and antibody detection techniques to determine if a person has elevated levels of antibodies associated with endometriosis.

“Our motivation came from our own experiences living in a city where many women do not have healthcare access, or whose symptoms are dismissed by physicians,” said White, a PhD candidate in Tulane’s Biomechanics of Growth and Remodeling Lab within the Department of Biomedical Engineering.

White’s teammates include Monticino, a recent graduate of the master’s program for material science; LaRosa, a junior Stamps Scholar studying cell and molecular biology and history; and Kiley, a sophomore Goldwater and Stamps Scholar studying biochemistry and public health.

Judges, all alumni of the Tulane School of Science and Engineering, named Fleur FemTech the grand prize winner. Placing second and third respectively were CleanSheath, a patent-pending urinary catheter that reduces the risk of urinary tract infections, and Gecko Tech Enterprises, which is pursuing novel and practical applications for proprietary residue-free adhesive designs.

Teams in the Novel Tech Challenge receive mentoring from Tulane alumni and faculty members and are judged based on innovative, interdisciplinary, and technology-based content as well as scientific merit, feasibility, and comprehensiveness of planning and development.

“The Novel Tech Challenge provides students the opportunity to pursue topics of personal interest and work in teams to address the challenges they see in the world today,” said John Christie, director of the Tulane Office of Technology Transfer and Intellectual Property, which conducts the competition. “And it is amazing every year to watch these students work together and make so much progress in the space of a

school year on such remarkable projects.”

The team won $10,000, which will go toward further development of the test kit. This includes optimizing current antibody levels and including additional biomarkers that are associated with endometriosis, White said.

They also plan to enter more competitions, both in New Orleans and Houston, where Monticino has been hired as product development engineer.

“We are moving full steam ahead to further develop our home use test and gain insight on our market value,” White said.

“Overall, we are grateful to the Novel Tech Challenge and appreciate the opportunity to immerse ourselves in aspects of science that we have not previously had the chance to explore. It helped translate the critical skills that we learn in the classroom into developing a product with clinical and market potential.”

The Novel Technology Challenge was sponsored by the Burton D. Morgan Foundation, the Wall Family Innovation Prize, the School of Science and Engineering, the Office of Technology Transfer & Intellectual Property Development, the Scot Ackerman MakerSpace, the law firm of Pugh Accardo, and F Branding + Print.

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