Customer case study | Xavier University
Featured Field Application Scientist: Brunie White

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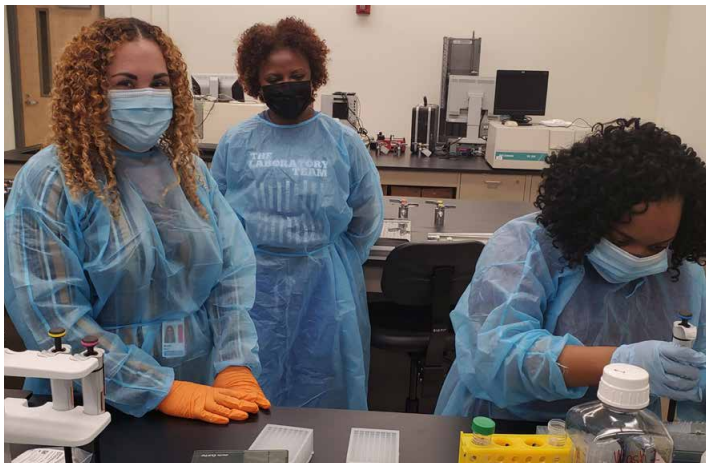
## When Xavier University implemented COVID-19 testing through the Just Project from Thermo Fisher Scientific, an FAS helped them every step of the way

### Introduction

At the height of the first wave of the coronavirus crisis in 2020, Thermo Fisher embarked on a new partnership with Historically Black Colleges and Universities (HBCUs) in the United States called the Just Project. To help address the impact of the virus in the United States—which has disproportionately affected communities of color—Thermo Fisher provides the instruments, kits, and infrastructure needed to bring COVID-19 testing programs to member schools at no cost to the institutions. The Just Project helps ensure that students, faculty, and staff at HBCUs can access testing so they can continue their important work during the pandemic.

One of the five HBCUs that opted in as a main testing center, Xavier University in New Orleans, brought in medical technologist Dijon Wilson to help implement their program. Wilson had been working as a generalist at University Medical Center, New Orleans, and had experience running COVID-19 PCR testing there. She has been instrumental in getting Xavier's testing program up and running quickly and effectively, with one other technician working beside her in the testing center. Charged with implementing such a vital yet completely new program



with limited internal human resources, Wilson has relied on Thermo Fisher Field Application Specialist (FAS) Dr. Brunie White to provide critical support for the program. Wilson spoke with us right when Hurricane Ida was hitting New Orleans—despite having a lot to deal with, she was determined to take the time to express her appreciation of Dr. White, one of our Global Services and Support professionals, being honored as a Guardian of Science.

**Medical technologist Dijon Wilson.**

### First, how are things on campus at Xavier with COVID-19 and the Delta variant? What precautions are you taking and how is testing fitting in with that?

We are required to wear masks on campus whether we're inside or outside. And students, faculty, and staff are all required to be vaccinated—we do that through an app where you can upload your vaccination card.

Although everyone on campus is vaccinated now, testing has increased. We're doing more than twice as many tests as we were doing the previous semester. We're operating under the same surveillance plan as last semester, which requires students to be tested every three weeks, but testing has increased because now we're 100% back on campus—versus the previous semester when classes were mostly virtual. So, we were collecting about 60 samples per day last semester, whereas we're now at almost 200 samples per day.

### Can you tell us about yourself and the mission of your lab at Xavier?

I am a medical technologist, generalist. Here at Xavier University, I specialize in molecular RNA extraction and PCR testing for the detection of SARS-CoV-2. The mission of the lab is to provide COVID-19 testing that is easily accessible to students and staff in order to maintain a healthy and safe campus. The goal is to ensure the campus community will have a safe learning environment throughout the semester.

Once we were able to start testing in house, I was one of the volunteers to help with that process. Our lab was already short-staffed—not everyone knows medical technologists exist—so when you add on the new crisis, you need people willing to go the extra mile and help out. So once we got testing, I jumped on that volunteer team.

When I came to Xavier, I was familiar with COVID-19 testing. I wasn't familiar with the workflow that I'm doing now, but it was easy to learn.

### How did the program get started at Xavier?

The testing center was established in September of 2020. Prior to that, there was no testing lab on the Xavier campus. The connection between Xavier and the Just Project was made prior to my arrival, but with Thermo Fisher being the leader in serving science, partnering with the company was a no brainer. Our colleagues and support team at Thermo Fisher have done a great job at developing an effective workflow that has allowed us to provide SARS-CoV-2 testing to students, staff, and faculty.

### You mentioned that you already had space for the lab. Can you tell us about it?

They created a space in the pharmacy building. I'm not sure what that room had been prior to that, but they renovated the room and converted it to a testing lab. We do have a clinic on campus, but we didn't have a place anywhere in that clinic to place our testing center. The pharmacy building is across the street from the clinic. So, we have someone who transports the samples once they've been collected from the clinic to our testing site in the pharmacy building.

### Can you tell us about the testing workflow set up through the Just Project?

We're using a Thermo Scientific™ KingFisher™ Flex Purification System for the RNA extraction. Once we have the elution product from that process, we transfer it to a PCR plate and run it on an Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System. We have one KingFisher system and two QuantStudio systems. There's only me and one other tech, so that tech prepares the samples. She aliquots the samples for the extraction and I set up the reagents, master mix, and controls for the PCR. Once the extraction is done, she then pipettes from that elution plate to the PCR plate. Using Thermo Scientific™ multichannel pipettes is a lifesaver. I'd never seen one until I came here to Xavier. I was so used to standard, single-channel pipettes. Having the multichannel pipettes has saved a significant amount of time. We run in batches of 94 samples on the PCR plate.

### And how is the turnaround to results?

It's anywhere between 6 and 24 hours. It depends on what time of day that a sample is collected. Samples are collected from 9:00 a.m. to 1:00 p.m. at the clinic. We receive and run them that same day. We collect more samples in the afternoon, and we carry on the run for this batch the very next morning. So, if you go and get your sample collected in the morning, you'll have your results by 5:00 p.m.

### Your FAS from Thermo Fisher was Dr. Brunie White. Can you tell us how she helped you through the setup process?

I first met Dr. White within a week of starting at Xavier when she came to start the training. She was our primary point of contact and the main person I reach out to when I need anything related to this process. From the start, Dr. White made herself readily and easily available to assist with any questions or issues we had.

In fact, from the beginning, she helped us develop an efficient workflow. She told us it would be ideal to have four people, but since we only had two, I remember Dr. White saying, "You should have one person do this while the other person does that." And at first it didn't make sense to me until I actually got my hands on the process. And then I was like, "Oh, okay, this is what she meant."

### Once you were up and running, how did Dr. White help continue supporting you?

My first troubleshooting experience with Dr. White was when she helped us determine why our results files would not upload. For some reason when we went to upload results into the interpretive software, it would not read the file. I sent her the file and she was able to promptly troubleshoot it for us and provide a simple solution to avoid the issue going forward.

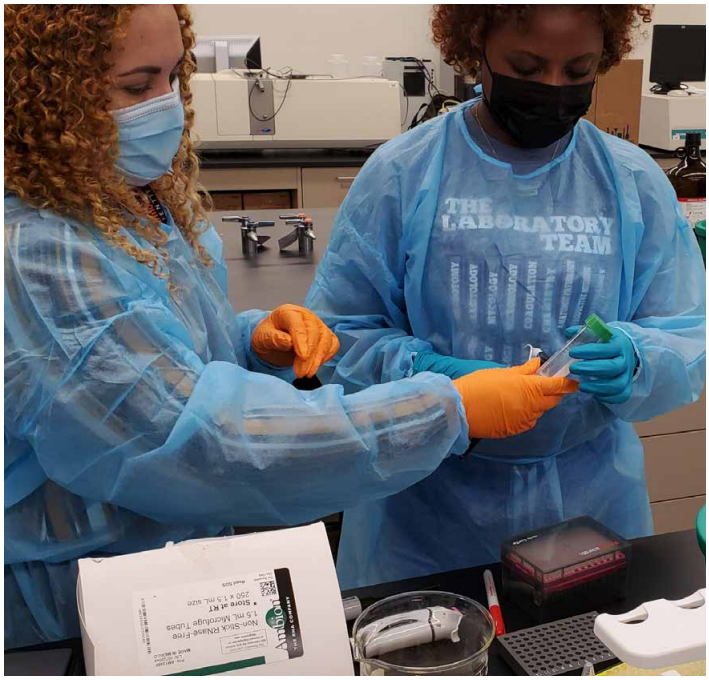
Another time, she came back on site because we had an issue with the KingFisher instrument. I showed her what was wrong and she helped us order a new part, and Thermo Fisher got that part to us quickly. She also offered to schedule additional training to help ensure the testing personnel knew how to properly use and troubleshoot the instrumentation.

From this additional training, we also gained tips to effectively manage our workflow and learned a more in-depth way to evaluate the amplification and multicomponent plots. We had questions about reading amplification plots. We were concerned about potential false positives. We wanted confirmation that we were putting out the best results possible. She was impressed with our workflow, with some of the unique things we'd implemented to make the workflow more efficient. But she also helped us thoroughly understand the amplification and multicomponent plots produced by the testing analyzers. Understanding these plots helped us better determine the quality of our results.

### Could you elaborate on how she helped you get to those better results?

She showed us what to look for on the graphs. We were a little confused; we understood how the graph was supposed to look, but when it looked a little different from that, we didn't have anything with which to compare it. So our default was to repeat those runs; if you're not sure what to do, you can't go wrong with that. But what Dr. White showed us was how to read those graphs. How to read the multi-component plot, looking at that over just the amplification plot.

I had also taken some screenshots of some of our most questionable results, ones we had decided to retest. She agreed, as far as the questionable ones we had, that we absolutely made the right choice on retesting those samples. It really was an affirmation that we were on the right track with those decisions, and getting that affirmation from an expert was encouraging.



**What has impressed you about working with Thermo Fisher and our Services and Support team in particular?**

I admire Thermo Fisher's commitment to supporting the efforts of HBCUs to make COVID-19 testing available to all students, faculty, and staff. The Just Project has helped us monitor COVID-19 on campus by providing us with the required materials and resources to perform testing. By doing this, we have been able to maintain a safe and healthy learning environment for our students, faculty, and staff.

I have been most impressed with the prompt and easily accessible support from Thermo Fisher's team members, and especially Dr. White. Her responsiveness has helped us tackle issues efficiently without impacting our workflow.

**As you know, Dr. White is being acknowledged by Thermo Fisher as a Guardian of Science. What would you like to add about working with her?**

Dr. White is a great person. She's very thorough and she affirms what she says by backing it up with facts. For example, I had a situation where we were collaborating with another institution, and we had to explain the importance of maintaining a cold chain in transporting samples. I explained it to them, but I also asked Dr. White to step in. She contacted them and more thoroughly explained how RNA degrades if it's not being maintained at a cold temperature, which could lead to false-negative results. We were then able to connect that institution with a courier who has helped maintain that cold chain for us. So that was really helpful. I really admire her for taking the time to always be there for us.

And that's just how she is. When I have an issue, she's always quick to respond. Once she got on a call with us at, like, six o'clock in the morning. She was so diligent, waking up at the crack of dawn to try to help us out. I really appreciated that.

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