



On the Front Lines: UMB Champions of Excellence: Microbiome Service Laboratory Team

March 24, 2021 | Lou Cortina

Staff from the School of Medicine’s Institute for Genome Sciences worked tirelessly and selflessly to transform its genomics lab into a large-scale COVID-19 testing platform.

The **Champions of Excellence** campaign is a multiyear branding campaign at the University of Maryland, Baltimore (UMB) in which we highlight individuals and teams that exemplify extraordinary accomplishment and represent excellence at the University. In 2020-21, UMB is highlighting the employees who’ve done exemplary work during the COVID-19 pandemic, and The Elm will be featuring these UMB Champions, who are making Baltimore, our region, and in some cases the world a better place.

Today: Microbiome Service Laboratory Team, Institute for Genome Sciences, School of Medicine



Even before the COVID-19 pandemic unfolded in Maryland in March 2020, Mike Humphrys, MSc, and his Microbiome Service Laboratory (MSL) team got to work on addressing the novel coronavirus. The mission: Transform a genomics lab into a large-scale COVID-19 testing platform.

“We were discussing COVID-19 testing in late February and early March, and we bought the supplies we’d need to kind of play around with the test and figure it out,” said Humphrys, director of MSL, which is part of the Institute for Genome Sciences (IGS) at the University of Maryland School of Medicine (UMSOM).

“Once you have a swab sample in the lab, you have to extract nucleic acids — DNA and RNA —do a couple of purification steps, and then do the actual test. We use programmable robots for that, so we took the robots and built an assembly line, then bought a bunch more robots with state funding and programmed all of them to run just COVID tests.”

(Watch video below.)

Once the system was functional, the lab was capable of processing 1,000 samples a day, but it wasn’t receiving that many because of the initial struggles setting up COVID-19 test collection. After those front-end issues resolved and tests started pouring in, the lab could process 10,000 or more samples a day coming from various collection sites around Maryland and other nearby states.

“Our capabilities have progressed a lot since the start,” Humphrys said. “During the Thanksgiving and Christmas surges, the system was able to adjust to about 1,000 to 1,200 samples an hour, just churning through them. It was pretty cool to see it in action.

“I think the most we’ve done recently is 11,000 samples in a 10-hour day,” he added. “I don’t think that at any time along the way we’ve really hit our capacity or been totally overloaded.”

Humphrys says the MSL team worked long hours, with some staff working on-site and some remotely. It was common for employees to work 12- to 18-hour days, six or seven days a week. Because of these yeoman efforts and the success of the testing initiative, the MSL team was named a University of Maryland, Baltimore (UMB) Champion of Excellence.

IGS collaborated with University of Maryland Pathology Associates, UMB, the state of Maryland, and the city of Baltimore on the project, and IGS director Claire Fraser, PhD, who also is the Dean’s Endowed Professor at UMSOM, called the MSL team’s work “extraordinary.”

“The Microbiome Service Laboratory has overcome many technical and logistical challenges to make this testing program a success,” Fraser said. “With Mike’s calm and steady leadership and the staff’s work ethic, ingenuity, and collaborative approach, the lab has inspired all of those involved in this effort across campus and across the state.”

In normal times, MSL supports research studies designed to characterize the bacteria that compose the human microbiome, essentially anything on Earth that is inhabited by bacteria and microorganisms. And while most of the nearly 40-person team is still working on COVID-19 research — including the study of coronavirus variants in positive

YOU MIGHT LIKE

March 26, 2021
UMB Employee, Stop the Bleed Save Gunshot Victim

March 24, 2021
E. Albert Reece to Step Down as UMSOM Dean at End of 2022 Academic Year

March 24, 2021
Let UMB Know via New Form if You Would Like to be Considered for Vaccine

March 24, 2021
Tell Us Why You Got the COVID-19 Vaccine

Students, faculty, and staff, let your voice be heard!

Submit Your Story.

test samples — a few have shifted back to other research studies.

No matter the project, Humphrys says his team is up to the challenge, and he appreciates MSL's recognition as a UMB Champion of Excellence.

"Everybody has worked tirelessly and selflessly to get this done, and I'm proud of them all," he said. "Robotics and molecular biology are familiar to us, because we are all researchers. This clinical component was very new to us, but we basically shed our previous lives and switched over to combat this virus. And that's pretty remarkable."

UMB Champions of Excellence - Microbiome Service Laboratory Team



SHARE THIS PAGE



The Elm

STUDENTS, FACULTY, AND STAFF, LET YOUR VOICE BE HEARD!

If you're interested in seeing your writing on *The Elm*, please submit your story using the link below.

SUBMIT YOUR CONTENT

SUBSCRIBE TO *ELM WEEKLY*

Keep Reading

TOPICS

- Elm Stories
- Announcements
- Voices & Opinions
- Accolades
- News Hub
- Calendar
- UMB Social

SCHOOLS

- Dentistry
- Graduate
- Law
- Medicine
- Nursing
- Pharmacy
- Social Work

ABOUT THE ELM

LOOKING FOR OLD ELM ARTICLES?

The Elm was overhauled and relaunched in February 2019. Articles from before that time can still be accessed at [The Elm Archive](#).

