From proposals to funded research in 48 hours: Tulane scientists receive Fast Grants

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cscofiel@tulane.edu

(407) 342-8809 cell

Mairi Noverr of Tulane University School of Medicine along with Monica Vaccari and Tracy Fischer of Tulane National Primate Research Center all received Fast Grants for COVID-19 research. (Photos by Sally Asher)

Three Tulane University researchers are the recipients of new Fast Grants, awards designed to quickly fund COVID-19 related projects. Mairi Noverr, Monica Vaccari and Tracy Fischer received a total of $350,000 for their proposals, all of which progressed from mere proposals to fully funded projects in just 48 hours.

Mairi Noverr, a professor at Tulane University School of Medicine, received a $200,000 Fast Grant for her proposal. Noverr will use the existing live-attenuated vaccines for measles-mumps-rubella and tuberculosis in a nonhuman primate model. The goal is to see if these vaccines, which use a weakened form of a virus to create an immune response, can reduce inflammation in the lungs and sepsis (which can stimulate other complications throughout the body) caused by COVID-19. Noverr

previously developed a similar animal model for fungal infections, where she discovered that administering a live attenuated vaccine protects against the complications – including death – that can result from sepsis.

These vaccines worked by stimulating a type of immune response that could also potentially protect against sepsis associated with COVID-19. Noverr thinks this could help explain why children, a majority of whom have been recently exposed to similar live attenuated vaccines, don't experience severe complications from SARS-CoV-2, the virus that causes COVID-19.

"We've seen these vaccines cause an immune response that controls inflammation," Noverr said. "Live attenuated vaccines have all these nonspecific benefits, and, while this wouldn't be an immune response against the SARS-CoV-2 virus, it could tone down the inflammation directly associated with COVID-19 mortality."

Monica Vaccari, who joined the Division of Immunology at Tulane National Primate Research Center (TNPRC) in February as an associate professor, received a Fast Grant award of $100,000 to study early host immune responses to SARS-CoV-2 in a relevant nonhuman primate model. The primary goal of her study is to understand the early events leading to the over-activation of the immune system that is seen in the most severe cases of COVID-19. That knowledge may be key in reducing disease severity and preventing the virus's deadly effects.

"Some of the early immune responses that activate in response to the virus may actually be detrimental to the body rather than protective," Vaccari said. "We need to identify and study what is detrimental and what is protective to inform the development of targeted therapeutics and maximally effective vaccines against SARS-CoV-2."

Fast Grants also awarded $50,000 to [Tracy Fischer](), an associate professor in the Division of Comparative Pathology at TNPRC. Her research team hopes to better understand how the SARS-CoV-2 virus and the disease it causes, COVID-19, affect

the body. The researchers will use a recently developed nonhuman primate model of COVID-19 to investigate the organ systems that are known or suspected to be impacted by the disease, including the lung, kidney, gut, brain and liver.

"We anticipate our findings will reveal important insights about how COVID-19 develops, which can help inform treatment strategies and lead to the development of viable therapies and treatments," Fischer said.

Fast Grants are unusual in their speed – as they are awarded within 48 hours of application in order to get funding to researchers as quickly as possible. The grants are funded through the Mercatus Center at George Mason University. Fast Grants are modeled after the work of the National Defense Research Committee, an organization which provided quick funding for scientific discoveries and technological developments in World War II.