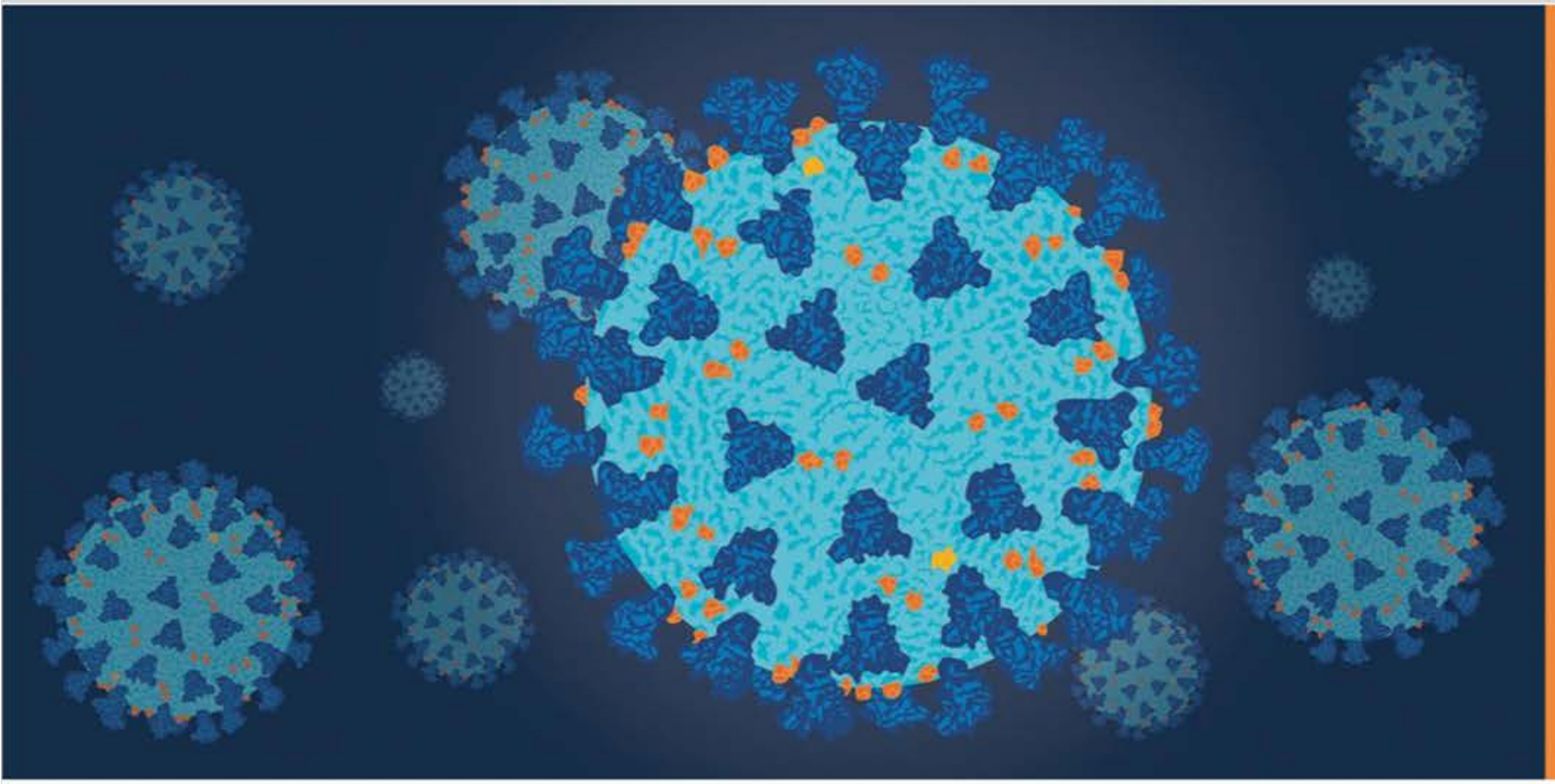

Prepare, test, treat, eliminate

The CVM seeks solutions for COVID-19

Illustration by Megan Murrell

Immunomodulation against COVID19 (SARS-CoV-2) infection and blocking viral entry

Human pulmonary epithelial cells, which serve many important functions in human lungs, express two key enzymes, ACE2 and TMPRSS2, that help SARS-CoV-2 enter human pulmonary epithelial cells. These enzymes facilitate viral entry specifically through their interaction with spike proteins. In this study, a team of scientists led by Hemant Mishra, PhD, will investigate whether blocking ACE2 and TMPRSS2 — by various means — can effectively prevent the virus from entering human cells. **Understanding which mechanisms block the virus from entering lung cells can prevent some of the complications attributing to the higher mortality rate associated with the disease, improving treatment for sick patients.** With years of experience in leukocyte biology, molecular virology, and the development of small molecular inhibitors in animal models, the team's labs are well equipped to seek these answers. Their findings will be used to design several preclinical investigations to further understand how COVID-19 develops. The study has received funding from the UMN COVID-19 Rapid Response Research Grants program.