In lieu of the 2021 Annual SIUC Sigma Xi Science Honor Society Annual Banquet, Please Be Our Guest for the *2021 SIUC Sigma Xi Award Presentations*

Featuring our Kaplan Award Lecture

RNA at the center of ALS, CRISPR, and COVID-19

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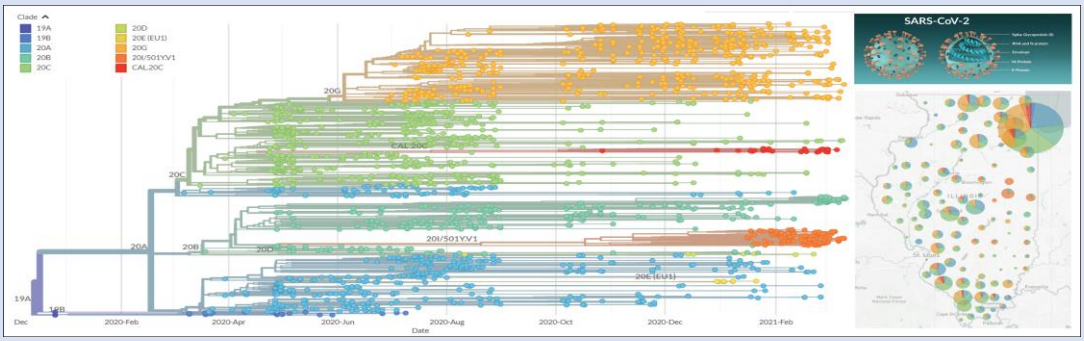
Time/Date: 4:00 pm, Thursday April 29, 2021 via Zoom
(via Meeting ID: 964 8639 9363 and Passcode: 436743)

Ribonucleic acid, or RNA, usually does not receive as much fanfare as its chemical cousin DNA. But in the past year, RNA has rocketed to the forefront of medicine and science. SARS-CoV-2 is the coronavirus that causes COVID-19. Its genetic information is stored in the form of RNA, not DNA. In a completely unrelated chain of events, the first COVID-19 vaccines to be deployed in the U.S. were "RNA" vaccines. Other independent events in science and medicine, including improved sequencing technologies, discovery of diseases caused by "bad" RNA, and a growing number of FDA-approved RNA drugs, are pointing to the power and value of understanding RNA in biology and disease. I will provide a brief historical overview of my own RNA research, spanning nearly 20 years. My lab's ongoing research programs studying Lou Gehrig's disease, or ALS, and a new gene therapy approach called CRISPR, positioned us to help fight the pandemic in 2020 by going after SARS-CoV-2 RNA genome sequencing. Our gamble paid off. We established ourselves as the leader in SARS-CoV-2 sequencing in the state of Illinois and helped us identify a previously uncharacterized variant that is highly prevalent in the U.S. that accounted for more than half of all cases before the end of 2020. Our studies of SARS-CoV-2 variants are helping us understand the virus' evolution and what ingredients may lead to more dangerous versions.



For details, please email Boyd Goodson, bgoodson@chem.siu.edu