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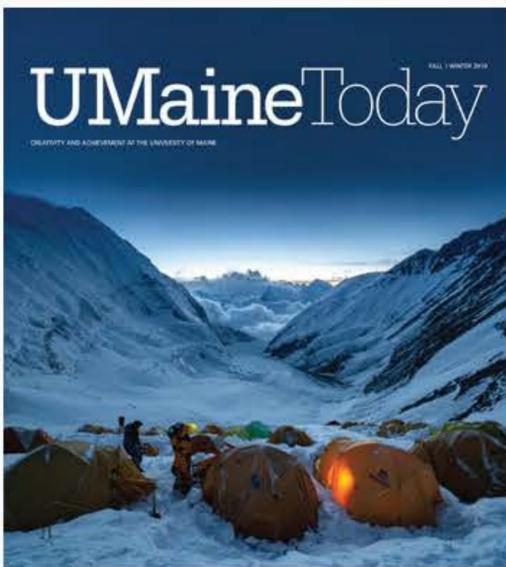
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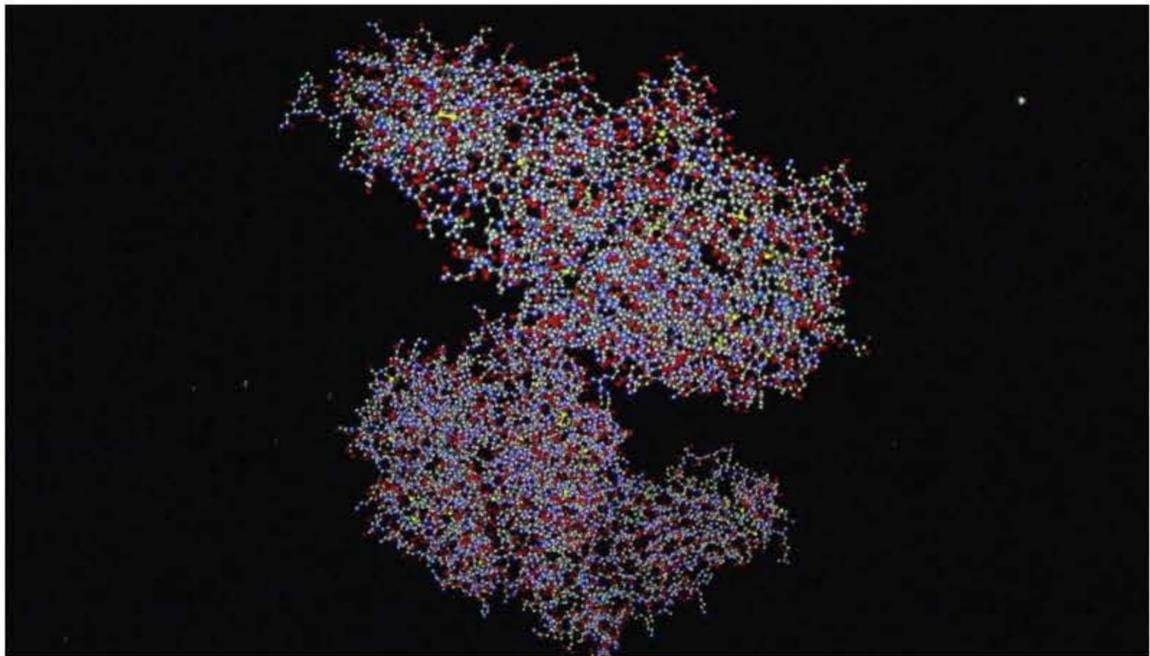


Image by Bruce Wilson

Emera Astronomy Center supports COVID-19 research efforts with visualization cluster

April 3, 2020

Emera Astronomy Center at the University of Maine is contributing to global scientific research efforts to fight the coronavirus. The visualization computer cluster in Emera's Maynard F. Jordan Planetarium is now part of an innovative platform operated by the University of California, Berkeley.

It is the second planetarium in the nation to join the effort.

The Berkeley Open Infrastructure for Network Computing (BOINC), funded by the National Science Foundation, is a volunteer platform that downloads scientific computing jobs to remote computers and runs programs in efforts to advance important research. Emera Astronomy Center is giving BOINC researchers access to the visualization cluster for use in the critical Rosetta@home (R@h) project from the University of Washington.

In the COVID-19 outbreak, R@h is being used to predict the structure of proteins important to the disease, as well as to produce new, stable mini-proteins to be used as potential therapeutics and diagnostics, according to the Rosetta@home website.

Emera Astronomy Center's planetarium uses the innovative Sky-Skan Definiti visualization system, the most advanced in Maine. The technology at Emera and the Frost Planetarium in Miami, Florida will be used to help accurately model important coronavirus proteins and predict their three-dimensional shapes. Knowledge gained from studying these viral proteins is now being used to guide the design of novel vaccines and antiviral drugs for COVID-19.

"I wanted to find a meaningful way to use our computing technology which is idle with our closure due to this global pandemic," says Shawn Laatsch, director of the Emera Astronomy Center. "The planetarium is always looking for ways to use our system in new ways."

"Just before closing, we hosted our Science Lecture Series that featured Dr. Melissa Maginnis from UMaine's Department of Molecular and Biomedical Science who presented on viruses. Since we can show proteins in our dome, I started searching for a way to actively use our facility to assist in research to fight COVID-19. I spent about three hours working with Sky-Skan to get our system configured and connected to the BOINC. The planetarium visualization cluster is now online and working on this protein research."

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