

COVID-19 High Performance Computing Consortium Enters New Phase Focused on Helping Researchers to Identify Potential Therapies for Patients

Second phase of operation will prioritize research projects with potential to help patients within the next six months

ARMONK, N.Y., Nov. 16, 2020 /[PRNewswire](#)/ -- The COVID-19 High Performance Computing (HPC) Consortium, a unique public-private effort to make supercomputing power available to researchers working on projects related to COVID-19, today announced that it has entered into a new phase of operation focused on helping researchers to identify potential near term therapies for patients afflicted by the virus.

In this new phase, the Consortium plans to sharpen its focus on research projects that hold the potential to help improve patient outcomes within a six-month timeframe. This transition is due in part to the fact that there is now a greater volume of COVID-19 data available, creating more possibilities to potentially help patients than when the Consortium was launched in March 2020.

[Spearheaded by the White House Office of Science and Technology Policy, the U.S. Department of Energy, the National Science Foundation, and IBM](#), the HPC Consortium brings together computing resources, software, and services to help researchers everywhere better-understand COVID-19, its treatments and potential cures. The Consortium has 43 members and has received more than 175 research proposals from researchers in more than 15 countries.

In its second phase of operation, the Consortium is particularly, though not exclusively, interested in projects focused on:

- Understanding and modeling patient response to the virus using large clinical datasets
- Learning and validating vaccine response models from multiple clinical trials
- Evaluating combination therapies using repurposed molecules
- Epidemiological models driven by large multi-modal datasets

"In just eight months, we've brought together an unprecedented scale of computing power to support COVID-19 research, and dozens of projects have already utilized these resources," said Dario Gil, Director of IBM Research. "At this stage, the Consortium partners believe that our combined computing resources now hold the potential to benefit patients in the near-term, as well as offering the potential for longer-term scientific breakthroughs."

"The Department of Energy is proud to play a significant role towards ending COVID-19," said Under Secretary for Science Paul Dabbar. "The second phase of the COVID-19 High Performance Computing Consortium can potentially provide tangible results to those affected by the virus, and we look forward to delivering these results to the American people."

To learn more about the new phase of operation, [click here](#).

Since its launch, the HPC Consortium has attracted new members from industry, government and academia worldwide. As a result, the Consortium's computing capacity has almost doubled to 600 petaflops, from 330 petaflops in March. Together, the Consortium has helped support more than 90 research projects including:

- **Understanding How Long Breath Droplets Linger:** This research from a team at Utah State University simulated the dynamics of aerosols indoors, offering insight into how long breath droplets linger in the air. They found that droplets from breathing linger in the air much longer than previously thought, due to their small size when compared to droplets from coughing and sneezing.
- **Understanding How COVID-19 Impacts Different Populations** Research from a team at Iowa State University on so-called orphan genes could help better understand why African Americans are more vulnerable to COVID-19. They found that a little-studied gene, F8A2, is expressed more in African Americans than European Americans in every tissue studied. Since the gene is believed to be involved in endosome mobility, this could affect COVID-19 infection.
- **Researching Drug Repurposing For Potential Treatments:** A project from a team at Michigan State University screened data from about 1,600 FDA-approved drugs to see if there are possible combinations that could help treat COVID-19. They found promise in at least two FDA-approved drugs: proflavine, a disinfectant against many bacteria, and chloroxine, another antibacterial drug.
- **Examining the Potential of Indian Medicinal Plants:** Research from India's Novel Techsciences screened plant-derived natural compounds from 55 Indian medicinal plants to identify compounds with anti-viral properties that could be used against eight SARS-CoV-2 proteins. They found that phytochemicals from plants *Withania somnifera* and *Azadirachta indica* show multi-potency against different coronavirus proteins, meaning that they could help fight multi-drug resistance that may arise as the virus evolves

About the HPC Consortium

*The COVID-19 High Performance Computing (HPC) Consortium, <https://covid19-hpc-consortium.org>, is a unique private-public effort spearheaded by the White House Office of Science and Technology Policy, the U.S. Department of Energy, the National Science Foundation and IBM (NYSE: **IBM**) to bring together federal government, industry, and academic leaders who are volunteering free compute time and resources on their world-class machines. To learn more about the Consortium, or to request to join the Consortium, please [click here](#).*

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