National Supercomputing Centre (NSCC) Singapore e-newsletter

NewsBytes

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NSCC.SG NSCCSG contact@nscc.sg

Message from CE NSCC

In times of crisis, everyone must stand together and play their part

Dear Readers

The COVID-19 pandemic is an unprecedented challenge to Singapore and to the world. Not in our lifetime have we seen a crisis on such a scale. It will change the way we live our lives; it will change virtually all aspects of 21st century humanity.

The decisions we make and the actions we take will define how we come out of this pandemic. Around the world, governments, communities and individuals are taking the initiative and shouldering the responsibility of doing what they can to fight the infection.

At NSCC, we are doing our part to ensure that the operations at NSCC continue unabated despite the prevailing circumstances. Working closely with A*STAR, we have been implementing the necessary steps to ensure the safety of our personnel, and sustaining the high performance computing systems that are the core of our services to our users.

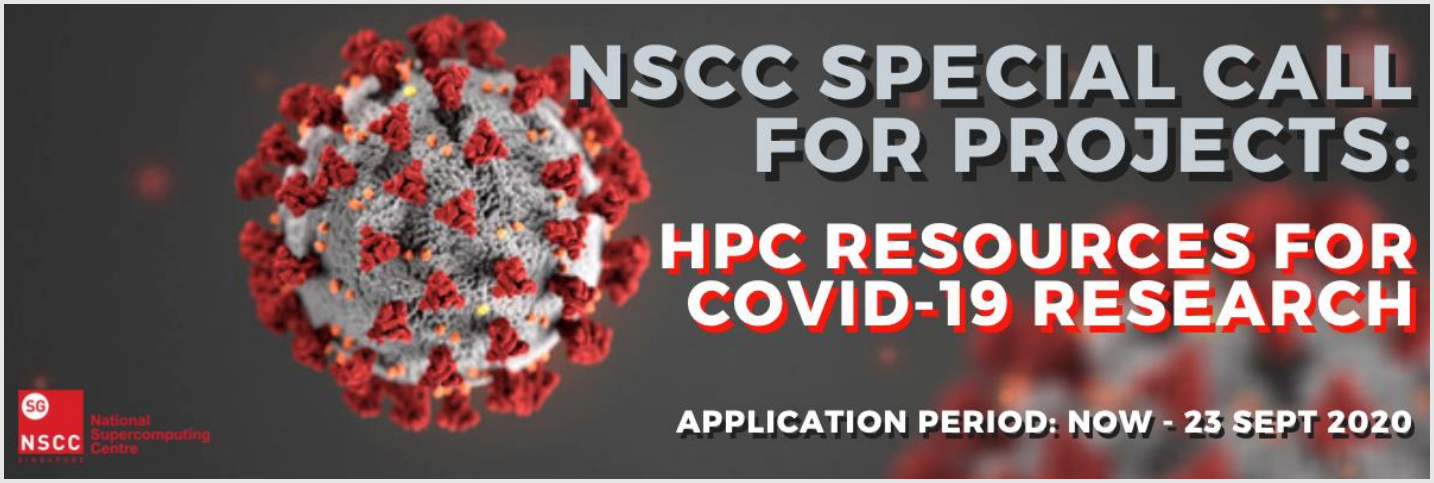
Operationally, we have instituted a number of business continuity contingency initiatives to ensure operations continue uninterrupted. These include heightened hygiene and contact tracing at the centre, segregated work teams, speeding up the alternate BCP site at NTU, building our next DC at NUS, and exploring partnerships with better endowed HPC centres overseas, so that our needs can overflow to their much larger systems.

Beyond this, we have launched a Special Call for Projects for COVID-19-related research. Fast-tracking and giving priority access to such projects is our way of contributing to the fight against the disease. The initiative hopes to spur more, and quicker, outcomes by our COVID-19 researchers.

Life has to go on and we are not letting the disease halt or slow down our efforts in advancing HPC usage, knowledge and training. Together with the HPC-AI Advisory Council we have kick-started the 3rd APAC HPC-AI Competition for regional student teams. In support of the global effort, the organisers are working to include COVID-19-related research elements in the competition. We have also begun planning for the next edition of the SupercomputingAsia conference, which is scheduled to be held in March 2021 to take into consideration virtual modes of engagement next year.

Together, we will overcome this and come out stronger than before. Stay safe and healthy.

Tan Tin Wee
Chief Executive, NSCC



Singapore's national supercomputing resource joins the fight against COVID-19

Local COVID-19 related research projects will be given special fast-tracked access to supercomputing resources at NSCC to speed up research on the virus.

Singapore scientists can now tap into the country's unique supercomputing resources for COVID-19 research through a special Call for Projects (CfP) put out by NSCC. The COVID-19 Special CfP comes outside of normal CfP cycles, which happen twice a year.

"Speed is one of the key elements which global experts have cited as a leading factor in helping to resolve the pandemic," said A/Prof Tan. "Supercomputers can play a crucial role in speeding up research whether it is in detecting the virus, tracing the infected, studying mutations in the coronavirus genome, building faster test kits or developing vaccines for the virus."

"The government is treating the COVID-19 situation not as a medical crisis but as a national

Successful applications will benefit from a fast-tracked approval process, a priority queue for access to supercomputing resources and access to some of the most advanced high performance computing (HPC) systems available in Singapore. These include the ASPIRE1 petascale supercomputer with 1,288 nodes of CPU and 128 accelerator nodes with NVIDIA K40 GPUs; an AI System with six state-of-the-art 8-GPU NVIDIA DGX-1 with V100 cards; and 13PB of high performance storage.

The Call is open to all local researchers working on COVID-19 related projects, including both existing NSCC users and non-users. Interested researchers keen on taking up this unique opportunity should contact NSCC at projects-admin@nscc.sg or bizdev@nscc.sg for further queries.

crisis," said Mr Peter Ho, Chairman of the NSCC Steering Committee. "This means that all resources of government and of the nation can and should be deployed in support of managing the outbreak. Hence, it is appropriate for NSCC to deploy its HPC resources in support, and also taking priority over other commitments where reasonable and necessary."

The provision comes in the form of a COVID-19 Special Call for Projects, which is open from now till September 2020, and welcomes applications from local scientists who require supercomputing resources for their projects.

For more information about the NSCC COVID-19 Special Call for Projects, please visit:

https://help.nscc.sg/nscc-special-call-for-projects-hpc-resources-for-covid-19-research/

The 3rd APAC HPC-AI Competition gets underway

Co-organised by the HPC-AI Advisory Council (HPCAIAC) and NSCC, the competition is sponsored by Mellanox, NVIDIA, AMD and WekaIO, the competition will be open to student teams from across the Asia Pacific (APAC) region.

The HPCAIAC and NSCC announced the launch of the 2020 APAC HPC-AI Competition, the third in the competition series that trains and tests the skill of APAC student teams to produce solutions and applications in the HPC and AI domains. The Singapore Advanced Research and Education Network (SingAREN) joined the organisers as a supporting organisation for the competition in 2020.

HPC and AI supercomputers are the essential tools that are needed to conduct research, enable scientific discoveries, design new products, and develop self-learning software algorithms.

"We are pleased to work with NSCC Singapore again to offer this incredible opportunity for students around APAC to contribute to the development of the core knowledge and critical skills for the region's

Students, organisers and supporters at the 2019 APAC HPC-AI prize presentation in Singapore. The third edition of the challenge, the 2020 APAC HPC-AI Competition is now open.

"The confluence between HPC and AI is growing more and more each day. Preparing the next generation of scientists who are trained to leverage combined HPC and AI aspects in future research ensures the growth of a multi-disciplinary research community that is able to adapt to the world's increasingly complex global issues such as the environment, technology development and even epidemiology. In particular we hope that the HPC-AI training established among our young aspiring programmers can help us tackle global threats such as COVID-19 and accelerate an improved response to future pandemics," said Associate Professor Tan Tin Wee, NSCC's Chief Executive.

new generation of HPC and AI researchers, scientists and professionals. We look forward to welcoming the incoming teams and wish all of the entries good luck," said Mr Gilad Shainer, Chairman of HPCAIAC.

For more information about the 3rd APAC HPC-AI competition, go to:
http://hpcadvisorycouncil.com/events/2020/APAC-AI-HPC/

In making the competition relevant to real-world issues, the competition planners are working to include special COVID-19 research elements into the student challenges.

The competition will be open to student APAC teams and will continue until October 19, 2020. The teams will then be judged on their performance with the final competition results to be announced during the Supercomputing Conference 2020 (SC20) in Atlanta, USA in November 2020. The competition award ceremony is set to take place at the SupercomputingAsia 2021 (SCA21) conference in Singapore, which is scheduled for March 2021.

The Last Byte…

<SHARED CONTENT>

Shared articles and news from the HPC world.

More Supercomputers vs COVID-19

In our continuing coverage of shared articles we highlight more high performance computing resources that are being deployed against the virus.

US sets up new COVID-19 HPC Consortium

The new consortium is a unique private-public effort spearheaded by the White House Office of Science and Technology Policy, the U.S. Department of Energy and IBM to bring together federal government, industry, and academic leaders who are volunteering free compute time and resources on their world-class machines… Read more about the consortium here. Find out more about the consortium's expanded role here.

PRACE is fast-tracking approval of COVID-19 projects

The Partnership for Advanced Computing in Europe (PRACE), is fast-tracking approval of proposals for COVID-19 related projects. Academic and industry researchers in Europe have access to seven supercomputing centres throughout Europe… Read more here.

Texas Supercomputer Joins COVID-19 Fight

…Frontera recently enabled researchers to begin to develop a 200-million-atom computer model of the coronavirus that they expect will give insight into how it infects in the body.… Read more here.