

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

Local COVID-19 related research projects will be given special fast-tracked access to supercomputing resources at the National Supercomputing Centre (NSCC) Singapore to speed up research on the virus. This could include deeper studies about the virus genome and potential new therapies or vaccines.

Singapore, 24 March 2020 – 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 the National Supercomputing Centre (NSCC) Singapore. The COVID-19 Special CfP comes outside of normal CfP cycles, which happen twice a year.

"The government is treating the COVID-19 situation not as a medical crisis but as a national 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." NSCC's Chief Executive, Associate Professor Tan Tin Wee added, "This represents our effort to show our solidarity with the global community in the fight against this pandemic."

The provision comes in the form of a COVID-19 Special Call for Projects that was launched on 23 March 2020. The CfP welcomes applications from local scientists who require supercomputing resources from now till September 2020. 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 ASPIRE 1 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.

"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."

"COVID-19 is a national and global priority. It is imperative for scientists to be urgently equipped with the necessary tools to give them the best chance to fight the pandemic," said Dr Sebastian Maurer-Stroh, Deputy Executive Director (Research), A*STAR Bioinformatics Institute (BII), who was one of the first in the world to analyse the coronavirus genome.

To support the COVID-19 research CfP, NSCC has shortened the review and approval process for these special applications to just 2 weeks from the normal 12 weeks. The applications will be reviewed by a COVID-19 selection committee which comprise Singapore HPC Bioinformatics and Molecular Biology experts.

For more information about NSCC's Special Call for COVID-19 Projects, please refer to the ANNEX attached.

For further information, contact:

Mr Eugene Low
Marketing & Engagements
NSCC Singapore
(65) 9230 9235
eugene@nscg.sg
National Supercomputing Centre (NSCC) Singapore
www.nscg.sg

About the National Supercomputing Centre (NSCC) Singapore

The National Supercomputing Centre (NSCC) Singapore was established in 2015 and manages Singapore's first national petascale facility with available high performance computing (HPC) resources. As a National Research Infrastructure funded by the National Research Foundation (NRF), we support the HPC research needs of the public and private sectors, including research institutes, institutes of higher learning, government agencies and companies. With the support of its stakeholders, including Agency for Science Technology and Research (A*STAR), Nanyang Technological University (NTU), National University of Singapore (NUS), Singapore University of Technology and Design (SUTD), National Environment Agency (NEA) and Technology Centre for Offshore and Marine, Singapore (TCOMS), NSCC catalyses national research and development initiatives, attracts industrial research collaborations and enhances Singapore's research capabilities. For more information, please visit <https://www.nscg.sg/>.

ANNEX

Special Call for Projects: HPC Resources for COVID-19 Research

Application Period: Now – 23 September 2020

Resources Allocation Period: One (1) year from date of resource allocation

1. Overview:

In view of the COVID-19 situation, NSCC will be supporting researchers in Singapore who wish to make use of supercomputing resources to aid their work on any effort related to COVID-19.

This provision allows researchers who are involved in COVID-19-related research work to have 'fast-tracked' access to supercomputing resources and without having to wait for the biannual [Call for Projects](#).

2. Eligibility:

This special call is open to **all NSCC stakeholders as well as non-stakeholders** as part of a national effort to deploy the extraordinary provisioning of advanced HPC to accelerate COVID-19 research in mitigating the effects of the COVID-19 pandemic.

3. Duration of Call:

The application period for this special call is for six months, from 23 March – 23 September 2020. NSCC will review this arrangement again near the end of the six-month period to evaluate the need for an extension.

4. Types of Resources Available:

- **ASPIRE 1**, a petascale supercomputer, which consists of 1,288 nodes of CPU and 128 accelerator nodes with NVIDIA K40 GPUs.
- **AI System** which consists of 6 units of state-of-the-art 8-GPU NVIDIA DGX-1 with V100 cards. This system is meant for projects that focus on AI research with particular novelty on scale and/or throughput breakthrough.
- **13PB of High Performance Storage**

Resources provisioned have to be used up within one year from the time of allocation.

Projects under this scheme will be allocated a priority queue for their job submissions.

5. Application:

The applications will be reviewed by a special COVID-19 selection committee comprising HPC Bioinformatics experts. Approved resources will be provisioned within 2 weeks from the submission date.

a. For users from stakeholder organisations:

Please follow the steps below to submit an application:

- i. Login to the [NSCC Projects Portal](#).
- ii. Create, complete and submit the application form.
- iii. Please indicate “COVID-19 Emergency Provisioning for HPC Resources” in the Project Description.

If you are unable to log in to the Projects Portal, please see below for the alternative method to submit an application:

- i. Download the [Offline Application Form](#).
- ii. Send the completed form to projects-admin@nscg.sg with the email titled “COVID-19 Emergency Provisioning for HPC Resources”.

For those projects currently submitted for approval as part of the NSCC six-monthly Call for Research Projects, they will be automatically fast-tracked for administrative processing if they are classified as COVID-19 related by the COVID-19 selection committee.

b. For users from non-stakeholder organisations:

Please follow the steps below to submit an application:

- i. Go to the following link: <https://go.nscg.sg/trial>.
- ii. Complete and submit the application form.
- iii. Please indicate “COVID-19 Emergency Provisioning for HPC Resources” in the Project Description.

NSCC will extend the existing complimentary trial period from a 2-month Basic Plan (10,000 CPU core-hours) to a 6-month Basic Plan (30,000 CPU core hours) to support non-stakeholders who are involved in COVID-19 related project.

Usage is subject to adherence to NSCC’s Standard Operating Procedure, Acceptable User Policy and other policies such as export control regulations, as well as a written acceptance of a disclaimer.

**Note that stakeholder organisations refer to A*STAR, NUS, NTU, SUTD, TCOMS and NEA.*

Please feel free to contact us at projects-admin@nscg.sg (for stakeholder users) and bizdev@nscg.sg (for non-stakeholder users) for any further questions.