



## The SC20 Virtual Student Cluster Competition<sup>1</sup>

November 15<sup>th</sup>-20<sup>th</sup> • Atlanta, GA

1. The Benchmarking webinar originally planned for today is postponed, watch for updated dates

## Housekeeping

- This will be a short(ish) presentation, followed by a longer Q&A session - please use the link above slides to ask questions
- We're recording this session, the recording and these slides will be posted on the webinars page
- The zoom password is "cluster"

The SC20 Student Cluster Competition will be a *virtual* event

Wait, what?

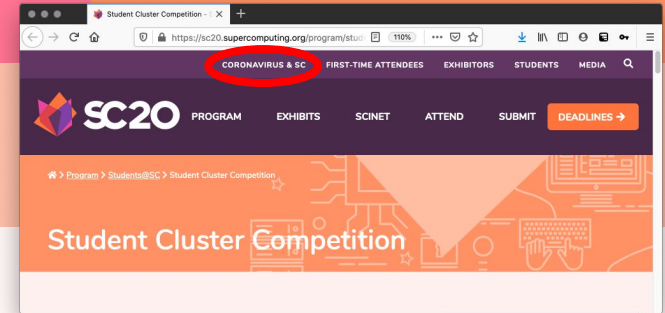
- The SC20 Student Cluster Competition will be a *virtual* event
- Teams can participate remotely from their home institution, or in-person at the conference

This change reflects the special circumstances in 2020, not a permanent change to the Student Cluster Competition format

Some adjustments to rules and procedures to accommodate remote participation

- Our aim is for teams participating remotely to have *no disadvantage* compared to teams physically at the conference

## Coronavirus & SC



**For information about SC20 and coronavirus, check the SC webpage**

**The health and safety of the SC20 family—participants and volunteers alike—are our first priority.** We recognize the impact that COVID-19 is having, and will have, on international travel in particular. *We are closely monitoring any specific travel advisories through official channels, which include the World Health Organization (WHO) and the U.S. State Department.*

**The SC20 committee is investigating options for limited remote participation for the conference in November 2020** should the need arise due to travel restrictions associated with COVID-19.

**We will make a broad announcement if remote participation becomes available for the conference.** We continue to monitor the situation closely, but at this point are hopeful for normal conference operations.

## Why?

We recognize that:

- International teams face extra uncertainty about ability to travel
- Social distancing in the environment of the SCC may be difficult
- Certainty about the format and rules of the competition helps teams prepare
- There needs to be a level playing field between in-person and remote teams

## What will be different? What will stay the same?

Important caveat: the committee is still working out the adjustments that will enable the best VSCC (Virtual Student Cluster Competition) experience

The following slides describe changes we anticipate, and elements we expect not to change. Details may change in the coming weeks, please watch for announcements

Our aim in all of these is to ensure a meaningful and fair competition

## What will be different? (Tentatively)

- No physical hardware
  - All computational tasks will run in the Microsoft Azure cloud
- Extended, flexible working times
  - (normally 48 hours with set event times)
- Cloud-oriented benchmarking procedure
- Adjusted scoring method
- Application data releases
  - Instead of releasing all application data sets at the competition outset, datasets may be released for one application at a time
- Some dates and deadlines
- The application form at <https://submissions.supercomputing.org/>

Exact details to come

## What will be the same? (Tentatively)

- Same week as SC20
- Same set of applications
  - CESM - Parallel climate model.
  - GROMACS - Molecular dynamics
  - Reproducibility Challenge based on the SC19 paper [MemXCT: memory-centric X-ray CT reconstruction with massive parallelization](#)
  - Mystery Application
- Competition components
  - Interviews
  - Posters
  - Lightning talks
  - Computational tasks
- Most of the preparation



## What will be different? (Tentatively)

No physical hardware - All computational tasks will be run in Microsoft Azure cloud

- Teams will need to decide what VMs to configure, and how to spend their cloud budget
- This reflects an increasingly important entry point into HPC: organizations without on-premise hardware can run HPC workloads in the cloud
- There will still be a system administration/cluster management component
  
- Allows remote and in-person teams to have the same resources and restrictions
  - eg: the power budget is not a factor, but the cloud budget is much more significant
  
- We encourage vendor/institution partners to continue to support teams with training and technical support

## What will be different? (Tentatively)

Extended, flexible working times

- Team will compete from different time zones, so 10am for some teams will be 2am for others
- To mitigate this, the competition will run for more than 48 hours (likely over several days)
  - Teams can start and take breaks at times within the competition window that suit them
- All teams will be constrained by the same cloud budget

## What will be different? (Tentatively)

### Cloud-oriented benchmarking procedure

- Traditionally, your hardware configuration used in benchmarking locks in your hardware configuration for the competition
- In the virtual student cluster competition, benchmarking aspects will be adjusted to better reflect HPC in a cloud environment
- Details to come

## What will be different? (Tentatively)

### Adjusted scoring method

- Some elements of scoring are less or more applicable in a cloud environment
- Details to come

## What will be different? (Tentatively)

### Application data releases

- Instead of releasing all application data sets at the competition outset, datasets may be released for one application at a time
- This helps to level the playing field across time zones
- Running leaderboard shows which teams are leading the field

## What will be different? (Tentatively)

Some dates and deadlines

Application deadline likely to be pushed back about 2 weeks

Watch for announcements

Especially: we need to know by **September 1** whether each team will travel to Atlanta to participate in person

- This is to allow sufficient time to plan for accommodations

There may be a limit on number of teams allowed to participate in-person

- Depending on what restrictions are in place in November

## What will be different? (Tentatively)

The application form at <https://submissions.supercomputing.org/>

- We may need to gather additional information to support the VSCC - please watch for announcements

## What will be the same? (Tentatively)

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## What will be the same? (Tentatively)

Dates: the VSCC will still be held during the week of SC20 (week of November 16)

Start date might be pulled back a few days to allow longer working time

## What will be the same? (Tentatively)

### Same set of applications

- CESM - Parallel climate model.
- GROMACS - Molecular dynamics
- Reproducibility Challenge based on the SC19 paper [MemXCT: memory-centric X-ray CT reconstruction with massive parallelization](#)
- Mystery Application

## What will be the same? (Tentatively)

### Same Competition components

- Interviews
- Posters
- Lightning talks
- Computational tasks

Some components may need to be video-recorded in advance to allow for time zone differences

## Ensuring fairness

The VSCC committee is working to ensure that participating in-person or remotely does not disadvantage teams

- Eg: all competition-related communication with the committee and application experts will be via the Google group, so equally accessible by all teams

Each team accepted into the VSCC will have a committee liaison person who will help to address any concerns you may have

## VSCC FAQ

- **What is VSCC?**

The VSCC is a fully virtual version of the Student Cluster Competition that allows for remote participation.

- **Does my team need to bring physical hardware to Atlanta?**

No. All the competition applications will be executed in the cloud. If your team chooses to attend in-person, you will still run all the applications in the cloud.

- **How will the competition rules change?**

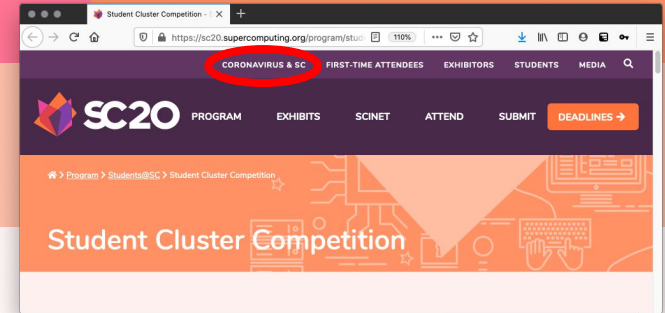
Please stay tuned for more details.

- **How can my team's institution/vendor partner remain involved?**

We encourage institutions/vendor partners to remain involved in the following ways:

- Provide training and interact closely with their teams.
- If the team chooses to attend SC20 in-person, partners must provide funding to cover the team's travel costs.
- Provide technical assistance to teams as they familiarize themselves with the cloud.

## Important to remember



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## VSCC details are still being worked out

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Q&A