

# COMPUTE ACCELERATOR FORUM

WHY, WHO, WHAT, WHEN

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1ST COMPUTE ACCELERATOR FORUM, 1 OCT 2020

# WHY & WHO

- ▶ Computer accelerators (GPU, FPGA, TPU, ...) are currently on the rise and many teams in HEP have started or are on the verge of starting programming for these devices
- ▶ In addition to the application specificities there are many common themes which span across application domains

Idea to establish a teaching and discussion forum for fundamental aspects of programming heterogeneous computing architectures and compute accelerators<sup>1</sup>

- ▶ We invite all scientists and engineers in HEP who are interested in programming for accelerators (novice & expert) to join this forum
  - ▶ Also reaching out beyond HEP, e.g. collaboration possibilities with PRACE, SKA, ...

<sup>1</sup> more details at <https://docs.google.com/document/d/1Fr5qVsV2tA0dpUwwZsHrPg3atjkkJ5Ke6HCjvZG48w/edit?usp=sharing>, open for comments

# WHAT

- ▶ Talks and discussion on educational and advanced aspects by speakers from within and outside HEP
  - ▶ Programming techniques and features (kernel scheduling, host/device interaction, hardware abstraction layers, data structures, single/double precision, ...)
  - ▶ Specific features of individual platforms (cuda streams, graphs, libcu++, ...)
  - ▶ Infrastructure for engineering with accelerators (SE environments, hardware, ...)
  - ▶ ...
- ▶ Present and discuss a paper of common interest
  - ▶ ...

# WHEN

- ▶ The current slot, Thu 3pm CE(S)T, is not convenient for several (e.g. US west coast)
- ▶ Propose to move to a new slot, i.e.

Wednesday, 5pm - 6pm CE(S)T

- ▶ If not convenient for your community please let me know within the next 2 weeks
- ▶ Aim for maximum 1 meeting / month. We can adjust in case of high/low demand
- ▶ Mailing list for announcements at [compute-accelerator-forum-announce@cern.ch](mailto:compute-accelerator-forum-announce@cern.ch)<sup>1</sup>
- ▶ Please let me know in case you want to subscribe other egroups / mailing lists there

<sup>1</sup> direct egroup subscription at <https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=compute-accelerator-forum-announce>

# MANY THANKS

- ▶ The forum is already supported by various organisations: [HSF](#), [Openlab](#), [SIDIS](#)
- ▶ Many thanks to the initial set of people who kicked off this initiative
  - ▶ Julia Andreeva, Concezio Bozzi, Simone Campana, James Catmore, Dirk Duellmann, Xavier Espinal, Alessandro di Girolamo, Maria Girone, Massimo Lamanna, Pere Mato, Andreas Morsch, Stefano Piano, Danilo Piparo, Ricardo Rocha, Markus Schulz, Graeme Stewart
- ▶ If you want to participate with your community (experiment, group, institute, ...) in the steering of this forum please contact either of [Maria](#), [Graeme](#), [me](#)