



CCSS Activity Group on GPU Computing

Call for Participation Call for Workshop Talks

Dear CCSS Members,

we would like to establish an activity group on **GPU Computing** within the CCSS.

At first, we would like to collect which groups have already used GPU programming in their research work and organize a workshop to collect the existing activities.

The idea for the workshop is as follows:

Each group/speaker gets a timeslot to present:

- Introduction to their field of research (brief!)
- Presentation of the core computational problem (Inputs, desired outputs)
- Algorithm / computation performed on CPU
- explanation of performance bottleneck, motivation to switch to GPUs
- (here comes the interesting part!) To port an existing algorithm / computation effectively to a GPU, it generally has to be organized differently to maximally exploit the parallelism offered by GPUs. Otherwise, the computation may even become slower! So we ask you to explain what you did to bring your method to a GPU. This is all the more valuable if the process is ***not finished*** yet, as we would all benefit from talking about the problems, not only the solutions.
- If convenient, you could present an analysis / comparison of the CPU vs. GPU approach in terms of running time, etc.
- The previous two parts may be left out if you just want to use GPUs, but haven't started yet.

We will fix a date/time/duration of the workshop as soon as we have a list of interested speakers. We may also split this event across two different dates, if this is more reasonable.

The long-term goal would be to collect some of the stories as book chapters (assuming that primary publications are out of the door already). This will be discussed during the workshop.

TODOs:

- Express your interest in the group by sending e-mail to Holger Gollan, Sven Rahmann.
- Express your interest in participating in a workshop and whether you have a "story" to present (either "full story" with solution, or "problem description" only)
- Later: send a short abstract about your computational problem (Details will follow.)

Best regards,
Sven Rahmann