CHIUW 2018
The Fifth Annual Chapel Implementers and Users Workshop
http://chapel-lang.org/CHIUW2018.html
Friday–Saturday, May 25th–26th, 2018
Vancouver, British Columbia, Canada

Background

Chapel (chapel-lang.org) is an open-source language whose goal is to vastly improve the programmability of parallel systems while also enhancing generality and portability compared to conventional techniques. Chapel's design and implementation are portable and open-source, supporting a wide variety of compute platforms, from desktops to commodity clusters, the cloud, and large-scale systems developed by Cray and other HPC vendors. Chapel's design and implementation are being led by Cray Inc. in collaboration with members of computing labs, academia, industry, and the open-source community, both domestically and internationally.

The Chapel Implementers and Users Workshop (CHIUW) is the preeminent gathering of the Chapel community. Its primary goal is to bring developers and users of Chapel together on an annual basis to share progress and results with one another and with members of the broader parallel programming community in a mini-conference format. CHIUW also fosters new Chapel collaborations and endeavors through a code camp session, to be held on Saturday morning this year. Anyone with interest in Chapel is encouraged to attend CHIUW, from the seasoned user or developer to someone simply curious to learn more.

Submitted Papers and Talks

This year's workshop continues our approach of accepting submissions in two forms: (1) traditional research papers and (2) extended abstracts, for those who are only interested in giving a talk. For CHIUW 2018, the program committee accepted five papers and five talks. Each submission received 4–5 reviews from members of the program committee (listed below). The resulting technical program involves nine institutions from academia, industry, and computing labs. The accepted papers can be found within these proceedings, describing novel research in: parallel sparse tensor decomposition, optimization of imperfectly nested loops, automatic data layout transformations, parallel-safe resizable arrays, and communication profiling. The extended abstracts for the talks can be found on the workshop website and cover topics such as language design, performance optimization, and package management tools.

Other CHIUW 2018 Events

In addition to the submitted talks, CHIUW 2018 will include a number of additional program elements. The mini-conference day will kick off with a pre-workshop "Chapel 101" session, designed to give new attendees a brief introduction to Chapel as context for the rest of the day's talks. This will be followed up by the official start of the workshop—a "State of the Project" presentation providing an update on key Chapel events since CHIUW 2017.

A centerpiece of the day will be a keynote presentation by Katherine Yelick from UC Berkeley / Lawrence Berkeley National Laboratory, who will be speaking on the topic of "Why Languages Matter." Her full abstract and bio are given on the following page. We'll wrap up the mini-conference day with a lightning talk and flash discussions session designed to hear more broadly from members of the CHIUW audience and Chapel community.

On Saturday, we will hold our annual CHIUW code camp, the goal of which is to create an opportunity for members of the Chapel community to work together in pairs or small groups in order to exchange information and solve problems, taking advantage of being in the same place at the same time. Any interested IPDPS attendees are encouraged to join us for this morning session and to propose Chapel explorations that they would like to undertake with members of the Chapel team.

On behalf of the Chapel community and the CHIUW committee, we look forward to seeing you at CHIUW 2018!

–Michael Ferguson, Nikhil Padmanabhan, and Brad Chamberlain

IEEE computer society

CHIUW 2018 Committee

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