



Hewlett Packard
Enterprise

WELCOME TO CHIUW 2021

The 8th Annual
Chapel Implementers and Users Workshop

June 4th, 2021

Engin Kayraklioglu, HPE
Program Committee Chair

chapel-lang.org/CHIOW2021.html

WHAT IS CHIUW?

- **Chapel Implementers and Users Workshop**
 - general information on Chapel
 - recent developments in the language
 - uses of Chapel in different applications
 - implementation/optimization of Chapel
 - ...
- First instance of CHIUW was in 2014
 - Typically held in conjunction with IPDPS/PLDI
- CHIUW 2021 is the first fully virtual CHIUW



chapel-lang.org



CHI UW 2021 AT A GLANCE

- CHI UW 2021 has 12 submitted talks
 - 9 talks are 15 minutes + Q&A
 - 3 talks are 10 minutes + Q&A

- The authors span
 - 12 organizations
 - 5 countries
 - 5 time zones

- Some talks are pre-recorded, some are live
 - All presenters will be available for a live Q&A after the talk
 - Submissions, talk slides, and pre-recorded talks will be available at CHI UW website
<https://chapel-lang.org/CHI UW2021.html>



ORGANIZING COMMITTEE

General Chair

Michelle Strout, *HPE*

Steering Committee

Brad Chamberlain, *HPE*

Mike Merrill, *U.S. DOD*

Nikhil Padmanabhan, *Yale University*

Program Committee

Engin Kayraklioglu (chair), *HPE*

Rich Vuduc (co-chair), *Georgia Tech*

Maryam Dehnavi, *University of Toronto*

Clemens Grelck, *University of Amsterdam*

Paul H. Hargrove, *LBNL*

Josh Milthorpe, *Australian National University*

Cathie Olschanowsky, *Boise State University*

Mark Raugas, *PNNL*

Tyler Simon, *UMBC*

Christian Terboven, *RWTH Aachen University*

Didem Unat, *Koc University*

Jeff Vetter, *ORNL*



AGENDA

PDT	EDT	UTC	Event
8:05	11:05	3:05	State of the Project (<i>Brad Chamberlain, HPE</i>)
8:45	11:45	3:45	Session 1
10:00	1:00	5:00	Session 2 - Keynote (<i>Éric Laurendeau, Polytechnique Montreal</i>)
11:15	2:15	6:15	Session 3
12: 25	3:25	7:25	Session 4
1:40	4:40	8:40	Session 5
2:45	5:45	9:45	Session 6 - Lightning Talks, Open Discussion

(15-minute breaks between sessions)



KEYNOTE

HPC Lessons from 30 Years of Practice in CFD Towards Aircraft Design and Analysis

Éric Laurendeau, *Polytechnique Montreal*

The talk will present a **crash course in aircraft design** and in particular the **aerodynamic analysis viewed through the various mathematical models**. The discretization of these into coupled systems will present some challenges. The **impact of HPC on industrial processes**, including aircraft certification, will be discussed. Some case studies will demonstrate **the need for ever increased software and hardware developments as exemplified by NASA's current vision for 2030**.

To that end, contributions from Polytechnique Montreal will show the **impact of the Chapel language for large-scale problems** (billions of unknowns), in its performance and also its ease of use.



**POLYTECHNIQUE
MONTRÉAL**

LIGHTNING TALKS

- At the end of the day, we will have a "lightning talk" session
 - Ongoing Chapel-related work
 - Previously published work that you want to talk about
 - Planned projects
 - Other Chapel-related pitches
- 2-5 minutes per speaker
 - With optionally 1-2 slides
- If interested, reach out to Engin Kayraklioglu or Michelle Strout through Zoom chat



TECHNICAL DETAILS

- We will use Slido for
 - moderating Q&A
 - polls
 - other interactions with the audience
- During talks, you can ask your questions on Slido
 - We will be moderating the questions to prevent spam
 - Session chairs will relay the questions to the presenters
- Planned polls on Slido
 - Right now; a 1-question poll is available
 - Throughout the day; general CHI UW/Chapel feedback
- Feel free to use Zoom chat for technical issues



sli.do/chiuw2021





THANK YOU

<https://chapel-lang.org>
@ChapelLanguage

