



Challenges of Performance Portability for Fortran Unstructured Mesh Codes



Abigail Hsu
Stony Brook University
abigail.hsu@stonybrook.edu

Objectives:

- Investigates how different approaches to parallel optimization impact the performance portability
- Explores the productivity challenges
Limitation of software tool and compiler support

Accomplishments:

- Develop initial ports for OpenMP CPU, OpenMP offload GPU and CUDA
- Compare the performance across the Exascale

Impact:

- Face some difficulties towards these approaches
- Encourage users and vendors to focus on the productive pathways to developing Fortran applications
- Draw attention for support on Fortran tools