Workshop on Asynchronous Many-Task Systems February 2025

Wednesday

Day 1 19

Registration
Coffee and Pastries
8:00 AM-8:45 AM

Welcoming Remarks
8:45 AM-9:00 AM

Keynote I: Improving the HPC experience, did Julia get it right or will AI hide the problem (or both)?
9:00 AM–10:00 AM

Coffee
10:00 AM-10:30 AM

Contemplating a Lightweight Communication Interface for Asynchronous Many-Task Systems
10:30 AM–11:00 AM

Comparing and Contrasting User and Runtime Directed Data Placement Strategies for Owner-Compute, Multi-Accelerator Distributed Task Based Scheduling
11:00 AM–11:30 AM

Chplx an Asynchronous Many Task Runtime Foundation for Chapel
11:30 AM–12:00 PM

Lunch

12:00 PM-1:00 PM

Supporting OpenMP Free Agents by Leveraging the nOS-V Threading Library
1:00 PM–1:30 PM

Futures in Task Graphs N Extending Taskflow With Dynamic Data Dependencies
1:30 PM–2:00 PM

Adaptively Optimizing the Performance of HPX's Parallel Algorithms
2:00 PM–2:30 PM

Coffee
2:30 PM-3:00 PM

Fail-stop Failure Protection for Coordinated Work Stealing of Tasks that Communicate through Futures
3:00 PM–3:30 PM

Q-IRIS: The Evolution of the IRIS Task-Based Runtime to Enable Classical-Quantum Workflows
3:30 PM–4:00 PM

Discussion: Integration with other standards
4:00 PM-4:30 PM

Banquet on Campus
5:30 PM–8:00 PM

Thursday

Day 2 20

Registration
Coffee and Pastries
8:00 AM-8:55 AM

WAMTA'26 Preview
8:55 AM-9:00 AM

Keynote II: Task-Graphs: Why aren't we all using them?
9:00 AM–10:00 AM

Coffee
10:00 AM-10:30 AM

Type-level invariants for SPMD programming with Rust
10:30 AM–11:00 AM

Evaluating AI-generated code for C++, Fortran, Go, Java, Julia, Matlab, Python, R, and Rust
11:00 AM–11:30 AM

Dynamic Resource Management: Comparison of Asynchronous Many-Task (AMT) and Dynamic Processes with PSets (DPP)
11:30 AM–12:00 PM

Lunch &
Poster session
12:00 PM-1:00 PM

Unifying the Architecture and Implementation of Task-Aware Libraries
1:00 PM–1:30 PM

Data Sparsity in Global and Compact Support Radial Basis Functions for 3D Unstructured Mesh Deformation
1:30 PM–2:00 PM

A Task-parallel Pipeline Programming Framework with Token Dependency
2:00 PM–2:30 PM

Coffee
2:30 PM-3:00 PM

GPRat: Gaussian Process Regression with Asynchronous Tasks
3:00 PM–3:30 PM

Julia-Unified Recursive Implementation of TRMM and TRSM for GPU Acceleration
3:30 PM–4:00 PM

Discussion: AI
4:00 PM-4:30 PM

Vito's Sicilian Pizzeria & Ristorante
6:45 PM–8:30 PM

Friday

Day 3 21

Registration
Coffee and Pastries
8:00 AM-9:00 AM

Keynote III: Chaos to Cosmos: Orchestrating Complex Scientific Applications with Dynamic Runtime Systems
9:00 AM–10:00 AM

Coffee
10:00 AM-10:30 AM

Scalable Block-Sparse Matrix Multiplication Using Template Task Graphs
10:30 AM–11:00 AM

Leveraging Hardware-Aware Computation in Mixed-Precision Matrix Multiply: A Tile-Centric Approach
11:00 AM–11:30 AM

Panel discussion: SWOT
11:30 AM–12:00 PM

Lunch
12:00 PM-1:00 PM