



**Department of Electrical and Computer Engineering
Computer Architecture and Parallel Systems Laboratory – CAPSL**

**CPEG852 - Advanced Topics in Computing Systems
Fall 2015**

Group Presentation – Round 2

Each group can download topic-related references in the course webpage.

Should you have any questions about the first round of presentations, contact Pouya Fotouhi (pfotouhi@udel.edu).

Topic B1 — Cilk

Students: Gongyuan He, Jinghe Huang

Questions for topic B1:

1. DAG-consistency :
 - According to you, is it weaker than the models we have studied in class (*i.e.*, SC, Coherence, WC, RC) Why?
 - Can you provide an example that support your claims?
2. Hyperobjects :
 - Describe how hyper-objects are related to the synchronization and memory model.

Topic B2 — MPI, CHARM++

Students: Haochen Xiong, Siyao Zhang

Questions for topic B2:

1. Memory tagging :
 - Describe how the use of memory tagging helps with error detection in memory. Reuse examples from the paper if possible.
2. Charm++ + MPI :
 - Is the resulting programming environment different from "classical" Charm++ programming? In other words: does the addition of MPI change how a Charm++ change how he/she programs with chares, how he/she views memory and communication, etc.?

Topic B3 — OpenMP

Students: Hui Ding, Xin Song

Questions for topic B3:

1. OpenMP memory model :
 - According to you, is it weaker than the models we have studied in class (i.e., SC, Coherence, WC, RC) Why? Can you provide an example that support your claims?
2. How is the task dependency model of OpenMP different from EARTH and the Codelet model?

Topic B4 — PGAS

Students: Yifeng Cong, Junpeng Zhu

Questions for topic B4:

1. Data movement constructs :
 - What is the impact of adding data movement constructs on PGAS programs? Is there any consistency issue that results? If so, how does the consistency model compare to the models we have studied in class (SC, Coherence, WC, RC)?
2. OpenSHMEM and MPI 3 :
 - What is the impact of adding data movement constructs on OpenSHMEM and MPI 3 programs? Is there any consistency issue that results? If so, how does the consistency model compare to the models we have studied in class (SC, Coherence, WC, RC)?