

Lecture 1: Introduction

- Course organization:
 - 4 lectures on cache coherence and consistency
 - 2 lectures on transactional memory
 - 2 lectures on interconnection networks
 - 4 lectures on caches
 - 4 lectures on memory systems
 - 4 lectures on core design
 - 2 lectures on parallel algorithms
 - 5 lectures: student paper presentations
 - 2 lectures: student project presentations
- CS 7960-002 for those that want to sign up for 1 credit

Logistics

- Texts: [Parallel Computer Architecture](#), Culler, Singh, Gupta
(a more recent reference is [Fundamentals of Parallel Computer Architecture](#), Yan Solihin)
[Principles and Practices of Interconnection Networks](#),
Dally & Towles
[Introduction to Parallel Algorithms and Architectures](#),
Leighton
[Transactional Memory](#), Larus & Rajwar
[Memory Systems: Cache, DRAM, Disk](#), Jacob et al.
[Multi-Core Cache Hierarchies](#), Balasubramonian et al.

More Logistics

- Projects: simulation-based, creative, teams of up to 4 students, be prepared to spend time towards middle and end of semester – more details on simulators in a few weeks
- Final project report due in late April (will undergo conference-style peer reviewing); also watch out for workshop deadlines for ISCA
- Grading:
 - 70% project
 - 10% paper presentation
 - 20% take-home final