

CS 498: Program Optimization, Fall 2007

Location: room 1131, Siebel Center for Computer Science

Time: WF 11:00 am –12:15 pm.

CRN: 43501, 40096

Instructor: Maria J. Garzaran

Office: 4308, **email:** garzaran@cs.uiuc.edu

Office Hours: By appointment (send me an email).

Course website: <http://www.cs.uiuc.edu/class/fa07/cs498mjg/>

Tentative Course Outline

F 8/24: Introduction. Course Organization. What is program optimization? Optimization and machine organization.

W 8/29: Optimization Challenges for High Performance Architectures.

F 8/31: Compiler Optimizations

W 9/5: Compiler Optimizations

F 9/7: Parallel Programming – Episodes I & II (Arch Robison)

W 9/12: Parallel Programming- Episodes II & III (Arch Robison)

F 9/14: Vtune (Paul Petersen)

W 9/19: Parallel Programming- Episodes IV & V (Arch Robison)

F 9/21: Introduction to OpenMP

W 9/26: Introduction to Pthreads

F 9/28: Threading Tools (Paul Petersen)

W 10/3: Introduction to Intel Threading Building Blocks (TBBs)

F 10/5: Introduction to Colorama, a data Centric approach (Josep Torrellas)

W 10/10: Locality/Tiling

F 10/12: Locality/Tiling

W 10/17: Midterm

F 10/19: Instruction-Level Parallelism

F 10/24: Introduction to Library Generators. Empirical Search

W 10/26: The ATLAS system

F 10/31: The ATLAS system

F 11/2: Sorting

F 11/7: Sorting

W 11/9: The SPIRAL system

W: 11/14: The SPARSITY system

F: 11/16: Datamining optimizations

W: 11/28: Datamining optimizations

W: 11/30: TBD

W: 12/5: Project presentation

F: 12/7: Project presentation