

# 16.650 Advanced Computing Systems Hardware Architecture

This course covers interesting topics of computer architecture such as pipelining, instruction level parallelism, memory hierarchy, VLIW, multithreading etc. The course intends to give a picture on recent technology trends and state-of-art platforms such as chip-multiprocessor, network processor and FPGAs. Case studies such as Google search engine and Playstation are also to be covered. The format of the class is lecture and projects. Students will work on a project towards the end of the course. We have interesting projects available. For example, students can work on design and implementation of network processor based wireless routers, deep packet inspection at network interfaces, or on FPGA-based intrusion detection systems. The projects can lead to operational prototype systems and/or publishable papers. Most importantly, experiences from the projects will benefit the student in future job search and career development.

Instructor: Prof. Yan Luo

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Class time: M 6:00pm-8:50pm

Class location: TBA

**Please read the course syllabus [here](#).**