CS 534: Advanced Topics in Computer Architecture
(aka Energy-Efficient Computer Architecture)
Prof. Josep Torrellas
https://courses.engr.illinois.edu/cs534/fa2021/
Fall 2021
Fact Sheet

- **Instructor:** Prof. Josep Torrellas, email: torrella@illinois.edu, tel: (217)-244-4148, office: SC4231, office hours: 4-5pm Thursdays.
- **Teaching Assistant:** None.
- **Administrative Assistant:** Madeleine Garvey, tel: (217)-300-6342, office: SC4301.
- **Classroom:** 1131 Siebel Center.
- **Class:** 12:30PM - 01:45PM Wed, Fri.
- **Form of Communication:** We have a Piazza discussion group for communication. You can also send email to the instructor.
- **Prerequisites:** Good background in computer architecture (CS433/ECE511 or equivalent), some VLSI background recommended.
- **Text:** We will use papers posted in the web site. As a reference, I recommend "Parallel Computer Organization and Design" by Dubois, Annavaram and Stenstrom, published by Cambridge University Press, 2012.
- **Credit:** 1 unit.
- **Format:** I will assign a set of papers for the course. Each lecture will be devoted to one paper. Each lecture will be lead by one student, who will present the paper. The presenter should have read other related papers, so s/he can give a better perspective on the research. He has to have practiced the presentation, so that it is delivered smoothly. He should also send the slides to the instructor the night before the presentation. All the other students should have read the paper in advance and send a short document answering some questions to the instructor the night before the paper is to be presented. All the students are required to participate in the discussion, commenting on the paper.
- **Goal of the Course:** This is an advanced course in computer architecture. The goal is to introduce the students to current research issues in energy-efficient computer architecture. We will be discussing papers and the students are expected to do a research project.
- **Exams:** There will be no exam.
- **Project:** There will be one project that will be in part chosen by the students. The project will involve the study of a research issue in energy-efficient architectures. I expect the students to work in groups of 2 for the project. The project will have three milestones: a project description, a midterm progress report, and a final report. In addition, students are expected to present their projects at the end of the semester.
- **Assignments:** The assignments will simply be the short write-ups, answering some questions about a paper to be presented the next day. This is to ensure the students have read the paper. See the schedule.
- **Grading:** 45% the project (10% midterm progress report, 30% final report, 5% presentation), 20% the responses, 25% the paper presentations, and 10% class attendance & participation.