

# Tonight's Agenda



**6:30 p.m.**

Doors Open & Networking

**7:00 p.m.**

Announcements

**7:15 p.m.**

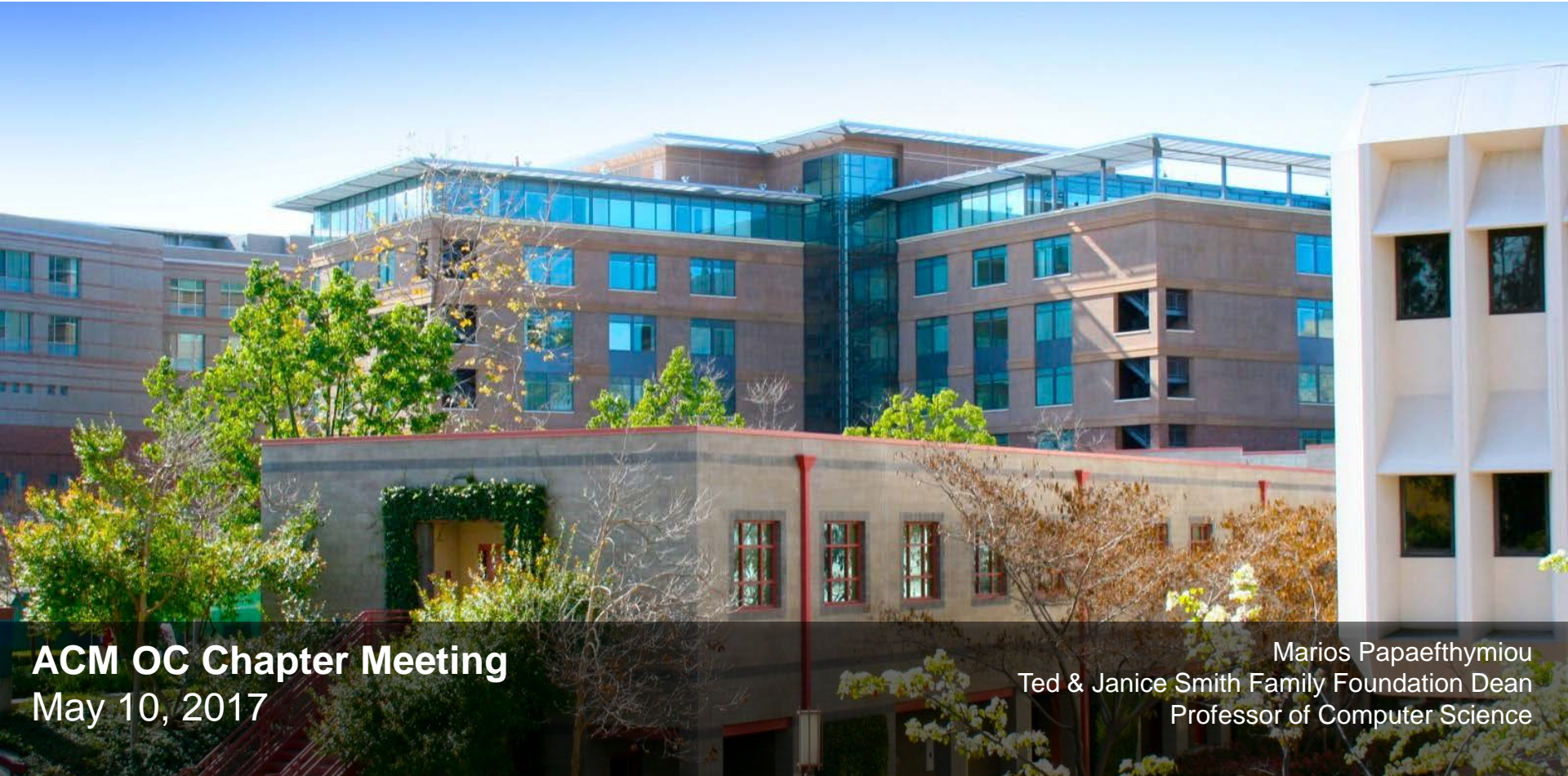
Saving Power in the Data Center

**8:00 p.m.**

ICS Overview

**8:30 p.m.**

Meeting Adjourned



**ACM OC Chapter Meeting**  
May 10, 2017

Marios Papaefthymiou  
Ted & Janice Smith Family Foundation Dean  
Professor of Computer Science

# About ICS



- Founded in 1968 as a Department of Information and Computer Science
- Established in 2002 as an independent school, the Donald Bren School of Information and Computer Sciences
- Only computing-focused school in the UC system, and one of the few in the U.S.
- Three departments:
  - Computer Science
  - Informatics
  - Statistics
- Undergraduate enrollment: 2,889
- Graduate enrollment: 461
- Over 80 faculty and 9,000 alumni

# Undergraduate Programs

## ➤ MAJORS

- ❖ Computer Science
- ❖ Data Science
- ❖ Informatics
- ❖ Computer Game Science
- ❖ Software Engineering
- ❖ Computer Science & Engineering  
(joint with Engineering)
- ❖ Business Information Management  
(joint with Business)

## ➤ MINORS

- ❖ Bioinformatics
- ❖ Digital Information Systems
- ❖ Health Informatics
- ❖ Informatics
- ❖ Information and Computer Science
- ❖ Statistics





# Graduate Programs

## ➤ Research (M.S., Ph.D.)

- ❖ Computer Science
- ❖ Informatics
- ❖ Statistics
- ❖ Networked Systems
- ❖ Software Engineering



## ➤ Professional Master's

- ❖ Master of Human-Computer Interaction & Design (*Started Fall 2016*)
- ❖ Master of Computer Science (*Starts Fall 2017*)
- ❖ Master of Embedded & Cyber-Physical Systems (*ICS & Engineering, Starts Fall 2017*)

# Faculty Data (F16)



## Faculty Count (TT/Lec)

Computer Science	40 / 5
Informatics	21 / 4
Statistics	9 / 1

- 1 Member of the National Academy of Engineering
- 5 Fellows of the American Association for the Advancement of Science (AAAS)
- 13 Fellows of the Association for Computing Machinery (ACM)
- 7 Fellows of the Institute of Electrical and Electronics Engineers (IEEE)
- 3 Fellows of the American Statistical Association (ASA)

# Recent Student Accomplishments



1st in SoCal regionals of ACM International Collegiate Programming Contest in fall 2016



Five ICS students receive NSF Graduate Research Fellowships 2016-17



Senior Emily Nguyen will be joining Pinterest this summer as a KPCB Engineering Fellow



# ICS Research Areas



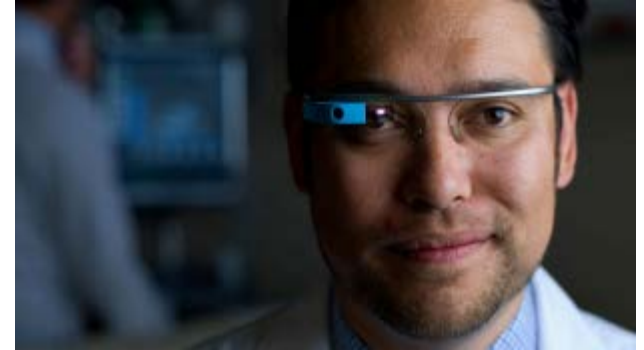
- Biostatistics and bioinformatics
- Bayesian statistics
- Data science
- Artificial intelligence/Machine learning
- Theory of computation
- Embedded systems
- Databases & software systems (OS, PL, networking)
- Visual computing
- Human-computer interaction
- Digital media and learning
- Software engineering



# ICS Research Centers

## CAMPUS CENTERS (headquartered in ICS)

- Data Science Initiative
- Cybersecurity Policy and Research Institute
- Institute for Genomics and Bioinformatics
- Institute for Software Research
- Institute for Virtual Environments and Computer Games
- Intel Science and Technology Center for Social Computing  
(ended 2015)



## SCHOOL CENTERS

- Center for Algorithms and Theory of Computation
- Center for Computer Games and Virtual Worlds
- Center for Emergency Response Technologies
- Center for Machine Learning and Intelligent Systems
- Laboratory for Ubiquitous Computing and Interaction
- Secure Computing and Networking Center

# Data Science Initiative

- Launched July 2014
- Graduate education
  - 1-day short courses on data analysis programming (Python, R), data management, and predictive modeling
  - Certificate in Data Science from the UCI Graduate Division
- Mini-symposia on emerging interdisciplinary research topics with significant data-driven components
- New Data Science major at UCI launched in Fall 2015
- \$3M NSF Research Training Grant awarded in Fall 2016



# CPRI & IVECG

## CYBERSECURITY POLICY AND RESEARCH INSTITUTE (CPRI)

- Focus on legal, policy and technology issues in combatting cyber threats while protecting and enhancing individual privacy and civil liberties.



## INSTITUTE FOR VIRTUAL ENVIRONMENTS AND COMPUTER GAMES (IVECG)

- Understand and create technology and applications that transform how we see the world through immersive visualization and virtual tours
- Interact and socialize with global communities
- Communicate and collaborate with colleagues in virtual collaborative space
- Provide medical care and training to remote corners of the world

# IGB & ISR

## INSTITUTE FOR GENOMICS AND BIOINFORMATICS (IGB)

- Foster innovative basic and applied research in genomics and bioinformatics
- Work with established companies, start-ups, government agencies and standards bodies to develop and transition these technologies to widespread and practical application.



## INSTITUTE FOR SOFTWARE RESEARCH (ISR)

- Advance software and information technology through research partnerships
- Educate the next generation of software researchers and practitioners in advanced software technologies.



# Looking Forward

## ➤ Grow

- Hire 30 new faculty in 5 years [~10 open searches for AY17-18]
- Emphasis on Big Data (statistics, machine learning, data management systems, software systems)
- Further build on other strengths: human-computer interaction, software engineering, digital media and learning

## ➤ Leverage other units on UCI campus

- Life sciences: medical school, biological sciences, nursing
- Engineering, physical sciences, social sciences

## ➤ Strengthen industry partnerships and promote entrepreneurship

- Capstone projects (senior year, professional master's)
- Research engagement (institutes, advanced short courses)
- Tech transfer (recruiting relationships, licensing, spinoffs)
- Community (seminars, open houses, alumni engagement)



**Actavalon**

***Summit Technology  
Lab***

# QUESTIONS?

