Annual Report to the EECS Advisory Board for 2008-09

After the inaugural June 10, 2008 meeting, the EECS Advisory Board (EAB) met for the second time on December 5, 2008. This was really an extended brainstorming session during which the board organized itself into three task forces:

- Creating a viable financial model for EECS
- Educational programs and facilities
- Outreach, student recruitment, and diversity

The California budget situation has made the issue of financial viability paramount. The principal recommendation to emerge from the EAB discussions was the establishment of a self-supporting Master’s program, which we have pursued vigorously. In addition, we took advantage of a new model for faculty hiring based on external financial support and hired two excellent new faculty members. Our biggest step in the student outreach area is the creation of a new CS course for non-majors designed to attract students to the field from other parts of campus. Finally, the new CITRIS building – Sutardja Dai Hall – has been completed and faculty and students moved in during May and June.

Since the December meeting Dr Josephine Cheng, Vice President and Director of the IBM Almaden Research Center joined the board. The board currently has 24 active members.

State Budget

The University is facing a financial crisis unprecedented in at least the past quarter century. The University’s State appropriation has been reduced by $813.2 million for FY 2009-10. Faculty and staff salaries have been reduced by 4-10% through furloughs; a hiring freeze is in place; and the EECS operating budget has been reduced by 21%. Retiring staff are not being replaced and some staff positions are being eliminated, while several administrative functions are being rationalized across the College of Engineering. Reductions are being mitigated to some extent by “salary savings” that accrue to EECS when faculty members cover a percentage of their salaries from research grants.

MEECS

After extended discussion at the Spring faculty retreat and subsequent faculty meetings, and a great deal of work by a faculty task force led by former EECS chair Dave Messerschmitt, the faculty approved an outline proposal for a new Masters in Electrical Engineering and Computer Sciences (MEECS) degree. After changes suggested by the Berkeley Graduate Division to
ensure approval by various UC system-wide bodies, the program requires 28 semester units including a 4-unit summer project course. Once the program reaches steady state, we expect it to generate enough revenue to support eight additional permanent faculty positions. We hope to admit the first students in January 2011. A detailed description is attached.

Faculty Recruitment
This year, campus cut hiring to well below replacement rate, and the department received authorization for one hire in EE and none in CS. We are proud to announce the following hire in Electrical Engineering:

Michael Lustig, our first choice in the EE search from over 300 candidates, received his Ph.D from Stanford in September 2008. He works in the area of signal processing applied to medical imaging. He is a pioneer in the application of the mathematical technique of compressed sensing to problems in MRI. He has found new ways to reduce imaging time and improve resolution and contrast, thereby opening up new clinical applications of MRI. He already has active collaborations with clinical groups at Stanford and UCSF.

In Fall 2008, campus recognized the need for flexibility in faculty hiring beyond the much-reduced allocation of approved slots and instituted the so-called "bridge model." Under this model, a permanent slot may be allocated provided the department commits to funding the entire startup package and the first five years of salary and benefits. Thanks to a generous donation from Qualcomm, the Computer Science Division was able to hire one new faculty member:

Björn Hartmann will receive his Ph.D. in Computer Science at Stanford in September 2009 in the area of Human-Computer Interaction (HCI). He is widely viewed as the strongest new PhD in this area in the last decade. His work focuses on design and rapid prototyping of physical interfaces and hand-held devices. He will be the inaugural Qualcomm Faculty Fellow.

The Beauty, Joy, and Awe of Computing
The primary reason for low representation of women and minorities in university computer science and electrical engineering programs is the low level of interest in EECS among these groups in high school. Although we are taking steps to improve the situation – for example, Prof. Michael Clancy is leading the redesign of the AP CS curriculum – we also need to rectify it at the college level. This Fall, Profs. Dan Garcia and Brian Harvey will teach a new course for non-majors whose goal is to convince freshman and sophomores that computer science is not about the proper placement of semicolons in Java or about how long you can play video games without stopping to eat or wash; it’s about deep and ingenious concepts that have transformed our world.

Sutardja Dai, Cory and Soda Halls
On February 27 we celebrated the opening of Sutardja Dai Hall, the new 141,000-square-foot CITRIS headquarters building. CITRIS is spread out over four UC campuses and functions as a
distributed network with over 300 faculty investigators as well as government labs and over 60 corporations. CITRIS is focused on developing information technology solutions for societal-scale problems.

EECS relocated 19 faculty members from Cory and Soda Halls into the new building. The research areas include: Artificial Intelligence, Control, Intelligent Systems, Robotics, Micro/Nano Electro Mechanical Systems, and Energy. The building contains the Marvell Nanofabrication Laboratory, the most advanced academic facility of its kind, and the Qualcomm Peet’s café, also the best academic facility of its kind.

These moves have created an opportunity to build a substantial new research center on the fourth floor of Cory Hall, and we are actively exploring funding opportunities for this. We have also been able to complete the internal reorganization of Soda Hall into research areas where faculty and their graduate students work in close proximity.