DEAN’S COMMENTS & DISCUSSION

Female faculty recruitment 2004-2010: 15 new faculty hires. Currently 12.1% up from 7.4% in 2004. Strategies: share best practices, general discipline faculty FTEs, opportunity FTEs, personal statement to include leadership contributions to diversity, partner hiring, UCSD presidential postdoc fellows (NE).

Climate change needed to increase diverse student recruitment. African/American undergrad students in engineering are 1% vs population of 7%; 12% vs. 37% for Chicano. UCLA is doing better in African American undergrad engineering enrollments. In grad students we are at the bottom. In female undergrad enrollment we are a bit better.

UCSD JSOE faculty has no African American and just a few Chicano/Latino.

Retention numbers of undergraduates – for all populations is 55%; for African American it is 32%; Chicano/Latino 37% (leaky pipeline).

To face these challenges - possible strategies: Jacobs School Diversity Advisory Council; role models and mentoring for retention (faculty recruitment, visiting faculty and scholars, alumni connections, peer tutoring, workshops), scholarships/fellowships.

1969 effort to name third college Lumumba-Zapata College (Frieder has document if anyone wants a copy).

The presentation slides will be sent to faculty.

John Slaughter could not make it today. He would be an ideal member for the council.

Outreach is one of the most important components. Reputation is primary attraction or detraction.

NSF has diversity requirements. Each grant should have money set aside for diversity.

Dean should champion files that show significant efforts in diversity and outreach. Culture emphasizes research and minimizes diversity efforts. One faculty member commented that diversity efforts are made “under the radar” so as not to jeopardize the perception that if you are doing too much you are not focusing on research and grants. CAP needs to change its current mentality that it is ok if diversity efforts are not evident. Every academic review letter should discuss diversity – it should stand as a paragraph.

Target other US universities for exchanges where they have higher minority populations. One faculty member is working on bringing students from Rutgers here.

One opinion is that unless we change the face of the faculty, we cannot change the face of the student population.

Create a repository of info on minority engineering students who graduate so we can recruit them as graduate students and eventually they become faculty. Role model is important.

STUDENT PANELS – FORMER UCSD STUDENTS

Victor Reyes – SE grad. No one to connect to in classes. Engineering students are changing majors. There is culture shock. How do students make the connection, need to feel like family. Only one other person from student’s school came to UCSD in a different major. Through Upward Bound program had some exposure to UCSD.
Michele Baesa, ECE grad. MEP was very important and beneficial to providing a network. Otherwise students can be clannish— as an African-American woman it was doubly challenging.

Alejandra Vasquez – First few years at UCSD were positive as SE major and was able to connect because of diversity, strong study groups. Switched to MAE and it became difficult—did not know anyone in classes and did not feel there was a group to approach. Did not know how to approach students who were not of color or female. No study group. Grades dropped. Found internship that at first was administrative work—realized she had to work harder to get validity that others normally get. Looked at other majors. SHPE mentors helped and encouraged.

Michael Alston – EE with PhD and MBA from Rady. Baltimore Polytechnic High School which was engineering prep school gave him good background. Baltimore Poly was visited by Carnegie Mellon students for outreach. In labs students gravitate toward those like them—faculty should assign lab groups to assure mixing. Rady formed study groups based on diversity the first year—second year changed. Suggesting pairing incoming students with alumni. Facilitate summer jobs to get hands-on experience. Target high schools nation-wide that are already preparing students at high level. Partnership with airlines so students can get home. Faculty diversity – invite visiting faculty.

Educate parents to the university culture. Some families expect students to go home every weekend or regularly. Strong family influence and guilt. Sometimes education is not appreciated. How do you help student explain to the parents.

Michelle Bailey – Northrop Grumman: MS in Computer Science. PhD in Organizational Psychology. Manages 500 engineers. Diversity through various perspectives: Meyers-Briggs, age group (5 generations), cultural differences at all levels. Don’t make assumptions. Inclusion—groups congregate with like people. Measure results in diversity. Diversity is good for business. When people feel appreciated they give back more. Not a quota, but be on the look-out for top candidates. Executive positions are reviewed to see if a minority can be hired. If only three white males apply, she will knock on doors to make sure no one has been missed. Promotion list should match demographics so all have equal opportunity. INVITE to apply. Diversity officer manages programs and tracking of stats. Second family, people you can trust. Engagement survey. Mentoring. NG will support sending staff to symposia.

CURRENT UCSD STUDENTS

Becca Kasl (SWE) – what you can do now. Brought high school girls to campus for CS outreach, used tools, hands-on. 98% were more interested in eng and UCSD after the experience. Lab tours are loved by kids; hard to work with UCSD professors. Grads and undergrads were willing to show equipment to students.

Hared Ochoa – participates in high school outreach through SHPE and NSBE. Bimonthly visit to Logan Heights to do science experiments. Hared went into eng because of MESA program. Because of recent events, minorities are having second thoughts; reputation.

Espoir Kyubwa – bioeng. Incoming PhD student in Bioeng after getting BS. Involved with NSBE because he knew he would need their support. We must connect stats to solutions. One possible explanation is that students feel isolated—social isolation, low number of minority students and faculty. There is a correlation between having minority faculty that positively affects the retention rate of minority students in STEM. Student orgs have been left to initiate and do outreach. Outreach alone won’t solve the problem. Students are pressured to focus on research and outreach is not valued. JSOE needs an advisory board that teaches diversity and also evaluates objectively how we are doing. Need to see results.
Recruitment from different parts of country requires different approaches and special efforts. Facilitate learning between lecture and lab. A larger center with more permanent goals is better than student orgs doing the work.

SWE is going to involve grad students more. One is in advisory capacity. Faculty are intimidating to first year students. What undergrads can aspire to by seeing the future through the grad student. Option to have mentor is important as is making it easy. Finding and matching mentor to student is important. Make it more personal – receiving one e-mail at the start of first year does not create sense of connection.

Mentor-Net: e-mail mentoring system available to all students. Can have multiple mentors, incl. industry people.

How do we get the faculty to participate? There must be a metric established by the University to value commitment to diversity equally with being a top researcher.

Rick Ainsworth – CEED/UCLA: strive for equity and parity K-20 public education pathways that lead to engineering and computing degrees. Outreach through pre-college programs, funded through MESA and UC. Retention and recruitment are top issues. Develop leaders for CA’s diverse technical workforce. Look at demographics of CA. 13.8% of BS engineering degrees go to URM. Gap between enrolled and those graduating has been increasing – retention issue. Status quo is untenable in CA and threatens socio-economic status. Need sense of belonging in engineering. Approaches: heavy recruitment, target early, connections to high schools, especially schools which normally don’t send students to UC. Orientations with parents. Bridging programs – transition from high school. Engagement in research, clusters, supplemental instruction, graduation preparation. Tutoring, intro to engineering, academic/personal counseling, summer job and career awareness, student organizations, student learning center, academic excellence workshop, clustering system for courses, industry advisory board, critical thinking, mentoring by graduate student. Industry and student orgs are partners. Scholarships. Summer courses for two weeks.

FACULTY BREAK-OUT GROUPS

Group 1: How can we increase and support student diversity.

Mentoring through a center, group mentoring so they also network. Upper class and grads in mentoring; students prefer going to TAs. Require faculty to contact students; provide mentorship with upper class and grad students; have faculty-student mixers to interact outside classroom. Programs like MESA and BREES are important. Centralize coordination between student organizations; ESS lack of staff. Engineering tutoring is especially important for freshman class – OASIS, Tau Beta Pi – but no one is aware. ECE 1A Intro to Eng – how to study, how to be an engineering student, how to get a job. Students need help with transition, need more social ties. Centralized outreach, strategically planned to reach diverse schools; grad students/postdocs should be involved in teaching workshops – this will satisfy teaching/training requirements. Provide continuous scholarships if student maintains GPA (grades often drop in first year). Community building award for student organizations. UCSD is seen as anti-social.

Group 2: How can we increase and support Faculty Diversity.

Encourage visiting faculty; role models for grad students; encourage that faculty on sabbaticals come to UCSD, incl. visiting Lecturers for undergrad classes. Identifying faculty early is important; increase faculty presence at URM conferences (1 person/year/dept). Third-4th year grad students and postdocs as future recruits. NSF funded networking center for pathways to faculty careers. Publicize opportunities for diversity; increase awareness. Interview process – make sure that when URM candidates arrive, we help them connect with their community.

Group 3: How could a Center help us achieve our diversity goals?
A Center (such as UCLA’s CEED) allows collection and organization of all diversity efforts in grants, better publicity of diversity; house student learning center; competitive to apply for grants and get donations from foundations/industry which can be used to hire visiting faculty. Establish JSOE as leader. Coordinate outreach efforts (e.g. science fair judging); point of contact for improving UG admission. Social network for students. Partnership with historically URM schools and liaison with community, do research projects for community. Name: Program for Retention, Inclusion and Diversity in Engineering (PRIDE).

Group 4  How can we make our academic climate more welcoming and inclusive.

JSOE cares. The act of creating the center shows we care. Good acts counteract the bad image. Centralized mentoring – show that everyone cares, we are family, staff cares, grads care, undergrads care, professors care! Teach students that they have a responsibility to reach out and include their peers. Teach them to be sensitive. Engineering can be a first-time in college family choice because it’s up and out of lower level. Accessibility is two way street. Mentor-Net is good so they can be matched. Profs are busy getting research money – willing to open labs if convinced it is painless. Provide mentoring/coaching for science fair students, especially in URM neighborhoods. Increase visibility of groups of URM in/around JSOE. Faculty have control of classroom climate – commitment to freedom of speech. Can determine what is acceptable in class; collective responsibility of students. Each faculty member can teach respect, ethics, get students to interact with diversity in the lab. Mixing of lab groups based on ability, diversity/URM, gender. As engineers it is hard to have the diversity dialogue.

Group 5: How can JSOE Diversity Advisory Council change our climate?

Broad constituency: alumni, faculty, staff, students, high school students, community engineers, experienced advisors. Mission/charge: climate change – how do we measure it? National targeted, active graduate and faculty recruitment. Work with individual departments to identify pools.

Identify community role models – in-house or outside; identify opportunities for URM recruitment through community focused projects such as TIES. Show how it helps a particular community, for example, building homes in Tijuana. Work with Development on funding sources. Metrics: raw numbers, # of faculty exploiting specific URM recruitment in grants. Track success and placement into careers, with alumni office. How do students we target and recruit do after graduation? Facilitate proper mentoring and peer-to-peer networking. Sustainability – great success for 1-2 years but you must maintain impetus.

Diversity Council is the first step to initiate climate change. The word “family” kept repeating today. We provide professional community but we also want to produce engineers who are whole people who give back to the community.

Faculty present at retreat should take discussions back to their department. Early fall quarter discussions about diversity climate; we do not want to wait for the campus; JSOE should be out front with the ideas. There is a strong mandate to proceed with development of Diversity Council. We have identified space in Jacobs Hall for URM student groups to be ready August 1. We are currently recruiting for a director of ESS, with emphasis on developing diversity in the JSOE. New center and ESS will work hand-in-hand to change the climate. Clearly mentoring is an important aspect. Summer bridge programs and impact at UCLA CEED – can we do it here? Demonstrate that the faculty care! Actively, not passively sending an e-mail is important. The dean will pay more attention to diversity statements in faculty bio-bib. How do we elevate the importance of diversity efforts in the academic review process? Make sure it is a visible component.