

**TO THE MEMBERS OF THE ACADEMIC COUNCIL  
FORTY-FIRST SENATE REPORT No. 2**

**Summary of Actions Taken by the Senate  
October 30, 2008**

At its meeting on Thursday, October 30, 2008, the Forty-first Senate of the Academic Council heard reports.

Rex L. Jamison, MD  
Academic Secretary to the University  
Professor of Medicine, Emeritus

**MINUTES OF THE FORTY-FIRST SENATE  
OF THE ACADEMIC COUNCIL  
October 30, 2008**

**I. Call to Order**

Professor Karen Cook, Chair, called the meeting of the 41<sup>st</sup> Faculty Senate to order at 3:19 PM. In attendance were 45 voting members and 11 *ex officio* members.

**II. Approval of Minutes – (SenD#6147)**

The minutes of the October 16, 2008, meeting of Senate XLI were approved.

**III. Action Calendar**

There were no items on the Action Calendar.

**IV. Standing Reports****A. Memorial Resolution:**

Chair Cook welcomed Gregory E. Loew, Professor of Particle Physics & Astrophysics at SLAC, to come forward and present a brief memorial statement in honor of his colleague Professor and Director emeritus of the Stanford Linear Accelerator Center (SLAC), Wolfgang K.H. Panofsky. She also welcomed Mrs. Adele Panofsky and Professor Helen Quinn who were in attendance for the memorial statement.

**Wolfgang Panofsky (1919-2007)** SenD#6124

*Wolfgang K. H. Panofsky, Stanford Professor and Director Emeritus of the Stanford Linear Accelerator Center, died on September 24<sup>th</sup>, 2007 at the age of 88. Known all over the world by his friends and colleagues as “Pief”, he had an illustrious career in Physics, International Science, and Arms Control, spanning more than six decades. Pief was a first-rate scientist, an excellent administrator, and a wonderful and compassionate human being. Nobody who got to know him will ever forget him. On the last day of his life, he still came to work at SLAC, and had several meetings with colleagues, before he drove himself home and died of a heart attack.*

*Born in Berlin on April 24, 1919, Pief was raised in Hamburg until the advent of the Nazi regime when the Panofsky family emigrated to the U.S. He received his B.S. at Princeton and his PhD at Caltech where in 1942 he married Prof. Jesse DuMond’s daughter, Adele. After WWII, Pief started his physics career at the University of California Radiation Lab but by 1951, when UC required that all staff sign a Loyalty Oath, Pief resigned and joined the Stanford Physics Department and the High Energy Physics Laboratory of which he eventually became director. His tireless work there with Robert Hofstadter and others*

*eventually led to the submission of the SLAC proposal to the AEC [Atomic Energy Commission] in 1957, and the inception of SLAC under his direction in 1962. Building the laboratory was Pief's finest scientific accomplishment. Much to his credit, the construction of the two-mile accelerator was completed in 1966 within schedule and budget, and by 1967, the research program which would become so successful and yield three Nobel Prizes in particle physics, was launched. Pief subsequently encouraged many other innovations and the laboratory flourished under his direction. He eventually stepped down as Director of SLAC in 1984 and became Professor Emeritus in 1989.*

*In parallel to his overall service to Stanford University and as a member of its Advisory Board, Pief served the American Physical Society as President in 1974, as a member of numerous international scientific organizations, and the U.S. Government. In particular, he spent over 30 years eloquently advocating for drastic Nuclear Arms Control and Reductions. Because of his unflinching adherence to scientific facts and reason, his opinions were highly respected all over the world in this field which he saw as major "unfinished business" to the last day of his life.*

*Pief received dozens of awards during his career, among them the Ernest Orlando Lawrence Memorial Award (1961), the National Medal of Science (1969), the Decoration of "Officer de la Legion d'Honneur" of France (1977), the Enrico Fermi Award (1979), and the Leo Szilard Award (1982).*

*Madam Chair, I have the honor, on behalf of a committee consisting of Professors Sid Drell, Helen Quinn and myself, to lay before the Senate of the Academic Council a Resolution in memory of the late Wolfgang K. H. Panofsky, Professor of Physics and Director Emeritus of Stanford Linear Accelerator Center (SLAC).*

All present stood in silent tribute.

Chair Cook thanked Professors Loew, Drell and Quinn.

## **B. Steering Committee (StC)**

Chair Cook called attention to the "yellow sheets" distributed to the Senators for the purpose of suggesting topics and issues for the Senate agenda.

At the next Senate meeting, November 13, the Senate will hear two reports. The first is about NCAA Accreditation. The second is a report from the Committee on Libraries (C-LIB) that includes recommendations from C-LIB's Subcommittee on Digital Information Technologies in the Research Library Environment at Stanford. C-LIB is requesting Senate Action on the recommendations. The subcommittee report is posted on the Faculty Senate website.

Chair Cook announced that the Senate meetings, December 4, 2008, and January 8, 2009, have been canceled.

**C. Committee on Committees (CoC)**

Chair Cook invited Penelope Eckert, Chair of CoC, to report on the activities of the CoC. Professor Eckert reported that on October 20, 2008, the CoC took the following actions:

1. At the request of Provost Etchemendy, the CoC nominated a list of faculty for consideration as members of the Search Committee for the Dean of the Graduate School of Business.
2. The CoC unanimously approved the appointment of a new Chair for the Committee on Undergraduate Standards and Policy - Professor and fellow Senator, Philippe Buc.
3. The CoC nominated several faculty to replace vacancies on four Academic Council committees.

Chair Cook thanked Professor Eckert.

**D. President's Report**

Chair Cook asked President John Hennessy if he any comments. He had none but referred to an email that he and the provost had just sent to the faculty about the prospective changes in Stanford's budget in response to the current economic volatility.

Professor Robert Simoni complained that he had not received that email and was "hurt". The President assured Professor Simoni that he would hurt even more when he received it.

**Provost's Report**

Chair Cook next turned to the Provost, John Etchemendy for his remarks. The Provost began his remarks by paying a tribute to Professor Panofsky in the presence of Mrs. Adele Panofsky. "...I want to say that Pief Panofsky was one of the true greats of the faculty at Stanford, of a generation that in some ways was the most important generation in turning this university from a good regional university into what is now one of the top universities in the world. We've all had a moment of silence. I would actually like to have a moment of applause for Pief, for his contribution."

[There was sustained applause, which was acknowledged by Mrs. Panofsky.]

Referring to the email he and the President had just sent, the Provost said, "When John and I were drafting the letter that we sent out today about the budget, I get daily tips from my Be-Well site about triathlons...this is the tip that came to me:

‘Triathlon: Don’t panic. The most important thing in open water swimming is not to panic. Stay calm, you’ll usually be able to catch your breath and swim safely to shore’. I think that’s good advice for budget cutting, too.”

[Laughter]

Chair Cook: “Thank you. It’s good that we have a swimmer for a provost.”

## V. Other Reports

### A. Committee on Academic Computing and Information Systems (C-ACIS) 2007/08 Annual Report (SenD#6120)

Chair Cook invited Serge Plotkin, Chair, to present the annual report of C-ACIS.

Professor Plotkin thanked Chair Cook and began his presentation with the help of slides.

“The context for this year was a greatly expanded committee with ten faculty members and lots of other participants...The ultimate goal was developing an IT [information technology] strategic plan...What it requires first of all, is to understand the IT needs of everybody involved...The topics are technical and require more than an average knowledge of the technology involved. There is also high degree of diversity. There are lots of different schools and sub organizations at Stanford. Each...[of them] has their own approach to IT and we needed to understand what’s happening. There is no global communication forum from which we’re able to understand what is really happening...The Systems Governance Group (SGG) [composed of senior university administrators from schools and business offices directed by] Randall Livingston [Vice President for Business Affairs] has a wide coverage...But it is not a faculty-oriented committee, and therefore cannot be used as a global communication forum.”

Professor Plotkin said that the C-ACIS had 11 different presentations during the year and that they are on a website. Website address appears in the final C-ACIS report. [To reach this website contact Phil Reese, Technical Manager, IT Services.] “It became clear that...there are many similarities across schools in terms of vision and challenges. We were trying...to identify those common challenges. Our approach to development of the strategic plan is to first identify common themes, come up with vision for each one of these themes, and then design a strategic plan to reach this vision. Last year was identification of those common themes. This year, we’re going to be building our vision for each one of the common themes.

“I will go quickly through some of the themes.”

Application and Services “We need to create a process of designating certain applications as ‘critical’, in other words applications that require full ‘24/7’ support. Users should be informed as to the support level of each one of the applications that

are being used. In particular, users should be aware if the application that they are using is not in the critical list (no '24/7' support) and adjust their usage accordingly.

“There are a lot of functionally similar applications across campus. I know of at least three graduate admissions applications. And as we go forward, we're probably going to have...dozens of those. We need to think about creation of a central 'clearing house' that will help one find existing applications. Also, we need to think how to provide tools and frameworks to make new applications applicable for more than one department. [Finally, there is a need] to better leverage central services.”

Security “Standard security issues came up. Some are well addressed, such as e-mail and SPAM...Some are in progress, like the firewall project, and for some, we're just starting to understand what can we do and what the impact is on faculty. In particular, protection of sensitive and restricted data (e.g. in context of US Senate Bill No. 1386) [State of California law about personal information and privacy] and identity management are things that everybody wants.”

Other issues “Storage, backup of data to recover from errors, archiving, disaster recovery, online storage. Everybody is interested in ...what will be our storage infrastructure in years to come. Other subjects were—managing desktop support, 'work-anywhere' initiatives, cross-platform support for Windows, Macs and Linux machines all over campus. Dealing with diversity is not easy and creates interesting challenges.

“Data retention, [by which] I mean that certain data should be kept forever, like results of research. But certain data, especially data related to private information about students, should probably be deleted at some point. And how to do this is a big question.”

Professor Plotkin summarized the plans of C-ACIS for 2009. “We are going to continue mixing education and strategy development effort. We're going to have more presentations...There are other groups across campus, for example, Electrical Engineering, Computer Science, and Mechanical Engineering, that have not presented their strategic plans yet. We are going to continue studying common themes...try to expand the list and prioritize those themes and essentially use this as a basis for the IT strategic plan.

Chairman's view “Last, I would like to put on the table several themes that interest me specifically...

“One is 'green computing', [that is] not just buying machines which use less power...It also involves how do we encourage faculty to stop accumulating servers in their offices and offices of their grad students...I don't think the approach of 'do not put machines in your office' is the right one. We need to provide the infrastructure where faculty will not want to do this, which brings us to the topic of 'cloud computing infrastructure'... I believe we should at least consider creating a

mini cloud—like Amazon EC2 and Amazon S3 infrastructure—or maybe renting, leasing it from somebody else. Such an infrastructure will allow [this scenario: Say] you need five machines, you push several buttons, and you have five virtual machines running with preinstalled software that you wanted for your class. You use them, [and then] you push another button and they go away...[This avoids] using the air conditioning in your office. Those physical machines on which your infrastructure is running, in fact, are going to be used for other things when you are not using them while statistical multiplexing is at work here, reducing the overall number of physical machines needed.

“The basic setup for faculty is another topic that I would like to understand...A long time ago, a desk was all that one needed to do research. Then came the phone. Today, we also have e-mail, and we have network. Where are we going from here? What else do we need, and we need [the answer] today, before we will really need it.

“Identity management...centralized backup, archival solutions and general storage are all important, and we have to have... a holistic approach to them.

“I would like to better understand and formalize the information flow between SGG and C-ACIS...A lot of the decisions made by SGG have an impact on faculty, and the faculty does not participate in SGG directly; we need some information flow back and forth so that C-ACIS will [have an] impact SGG and vice versa.

“Finally [my] guiding principle is not to break what is working. Because what’s working today is actually working pretty well. Yes, there are complaints, but a lot of things are working well, and we should be very careful not to break them.

“That’s all I have to say.”

[Applause]

Chair Cook invited questions from the floor.

Professor Philippe Buc commented that it would be good practice for IT people, to inform the faculty as soon as they are aware when something is breaking down systemically in the IT center. He described a personal experience in which he was unable to send email messages by web mail. He requested help from the desk. Two weeks later he received a message from IT people stating the problem had been solved. It turned out the problem was central but many of his colleagues thought it was their computers. IT should have alerted everyone at the time the problem was discovered.

A second concern of Professor Buc was that if programs are working, [one should] not risk improving them and thereby risk wasting faculty and student time in testing the new version. He concluded by saying, “We should be very careful in innovation.”

Chair Plotkin agreed that all users should be notified [of a central IT problem] promptly, but did not believe that problem was in purview of the committee; it should be conveyed directly to IT management. But he thought the second point was very appropriate for the committee. He said, “[That is] why I would like a better information flow between SGG and C-ACIS, so that there will be some faculty input into what SGG decides to do, since it is the organization that is deciding that we are going to upgrade ‘application ABC’ to the new version. My hope is that [C-ACIS] will succeed in providing this input in a constructive way.”

Professor Helen Blau spoke strongly in favor of the idea of centralized backup system and archival system. The students in her laboratory have a variety of backup systems—or none at all. She has discovered that the same haphazard approach is true in many departments. She was also concerned that there was no backup system away from the university in case of an earthquake.

University Librarian Michael Keller responded to Professor Blau’s complaint. “First of all, I have had in place an automatic backup system for years. It’s easy to use; it works on a schedule you set. And it does save the [data]. It’s an ITS system that I’ve been using. I don’t know what it’s called, but it actually works. Second, with regard to the archival solution, we have been working on something called the Stanford Digital Repository. It is in prototype...It will be available more widely soon.”

Professor Blau thought that was great news and asked the Librarian Keller for the name of the IPS system he uses for backup, to which request he assented. . [NB: see <http://backup.stanford.edu>; <http://library.stanford.edu/depts/dlss/collections/sdr.htm>]

Professor Andrea Goldsmith expressed concern about IT security. “Are there proactive security measures that have been taken, not just looking at what’s broken now, but what might be coming? And is the infrastructure we have right now up to the task of dealing with security threats?”

Professor Plotkin replied, “A lot of work is being done on security...for example, a ‘Big-Fix’ approach which is an automatic patching infrastructure that has already been deployed and is working very effectively. There is the ‘Departmental Firewall’ project which is essentially a hardware-based infrastructure that closes certain Internet ports from outside to reduce the number of possible attack vectors. And there is a very important thrust right now in the direction of trying to understand how we deal with restricted and prohibited information...”

“But it’s a moving target. We will have to continue...creating new strategic approaches to how to deal with this in the future, within a limited budget. The problem is that security is something that you can sink as much money into as you want...So there is always a trade-off.”

Professor Andrew Fire commented, “The cloud computing idea is good for a number of applications. But...for many of the applications, I’m somewhat skeptical whether that’s going to actually improve people’s computational life... [It’s] probably worth doing some kind of study about how much [cloud computing] would be of value.”

Chair Plotkin agreed: “...The committee did not decide that [cloud computing] is a good idea. [It is] one of...set of topics I would like to put in front of the committee, and try to get a consensus. My feeling is that it has to be discussed and understood, and it might provide solution to certain problems—but it might not.”

Provost Etchemendy noted that a few years ago a risk assessment was undertaken by surveying units around the university about what they saw as the major risks that face the university. Among the top two concerns was data security in one form or another, slightly differently worded. In response, “...we have launched a number of programs [including] the ‘Big Fix’...and the ‘Departmental Firewall’ specifically as a result... We...created an office of information technology security. So we are doing a lot of things...but mind you, at the same time, universities have traditionally been extremely open. I don’t think you would ever want to clamp down to the degree that a corporation might [wish to] clamp down.”

Professor Robert Simoni had two comments: “It seems to me over the last year or two the most serious security problem was that somebody’s laptop was stolen, which is not the kind of security you’re talking about. I want to come back to the [the topic of] multiple applications for the same task. You mentioned the graduate admission applications [of which] there are several—and likely to be several more. What can prevent that [redundancy]?...Graduate admission processes are generally the same everywhere, with some small specificity. But I’ve seen [new ones] cropping up...completely ad hoc...Where would I go, if I wanted to find a good graduate admissions software to run for my department?”

Professor Plotkin responded, “This is exactly what I would like to create, some sort of a clearinghouse. Because [now] I go to a guy named Joe Little, and I ask him...”

President Hennessy: “Joe the plumber.”

[Laughter]

Serge Plotkin: “They’re essential to life.”

[Laughter]

Professor Plotkin resumed, “I ask him...but that’s because I personally know him, and I know he has a good version...And by the way, Computer Science [Professor Plotkin’s department] is not using that version...[it] is using a different version of graduate admissions. I would like to create a clearinghouse where you can go to a

website and get information about available applications... moreover, I would like to provide guidelines and tools [to help another individual who needs to develop a new application], since we cannot and do not want to prevent people from creating new applications. We are not in a business of enforcement. We're in the business of encouragement. My hope is that we will be able to encourage development of applications that are useful for more than one department. Other examples include applications to construct lists of classes, class waiver applications for MS student, and other applications that seem to grow like mushrooms."

Chair Cook concluded the discussion by saying, "So let's thank Serge!"

And the Senators did.

[Applause]

Chair Cook added, "And for this great report, we'll make him permanently Chair of C-ACIS."

[Laughter]

Professor Plotkin's reply was inaudible.

**B. Report from the President's Task Force on Undergraduate Expansion**  
(SenD#6145)

Chair Cook invited Jim Canales, member of the Board of Trustees, and Ramon Saldivar, Co-Chairs, to present a progress report from the Task Force on Undergraduate Expansion. She noted that the Task Force was appointed by President Hennessy. Among its members are Professor and Senator Sheri Sheppard, John Bravman, Vice Provost for Undergraduate Education, and Stephanie Kalfayan, Vice Provost for Academic Affairs, who were present. Jeff Wachtel, Senior Assistant to the President, a staff member of the task force was also present.

The presentation was made with the aid of slides. The two speakers alternated in presenting portions of the report.

Professor Saldivar began the presentation by thanking Chair Cook. He stated that this was an interim report, "...But we have been looking forward very much...to this presentation, because even though we are fairly far along in our work, the input that we hope to receive from you today will certainly play a major role in helping us finalize our recommendations to the president.

"Undergraduate studies at Stanford University in the past decade has undergone significant modification as a result of the implementation of the recommendations of the Commission on Undergraduate Education (CUE)...in 1994...With the creation of the Stanford Introductory Studies,

designed to bring coherence and focus to the undergraduate program in the first and second years and to enhance undergraduate student and faculty interaction in the classroom and in research, a transformation of the undergraduate program as recommended by CUE has been, in fact, pretty much achieved.

“...The successful implementation of the CUE recommendations...has created a context for the review, now, of other aspects of undergraduate education and student life...In great part because of the success of CUE and the implementation of SIS [Stanford Introductory Seminars], for the freshman class of 2011 Stanford received a record number of applications, over 24,000...

“Since 1970 the number of applications has grown by 245%, while the number of undergraduates has grown by only 11%. For the class of 2011, with a target for the class of 1650 freshmen, we were able to accept just over 10% of the applicants who overall were better qualified than the much smaller pool that applied in 1970. That’s the situation within which Stanford alumnus, current trustee, and CEO of the James Irvine Foundation, Jim Canales, and I accepted President Hennessy’s request to head this task force.

“The task force was asked to consider—should Stanford expand the undergraduate class to accommodate additional highly qualified students? The topic of undergraduate expansion first came to the attention of the university with President Hennessy’s column in the September-October 2007 edition of the Stanford Alumni Magazine. Last fall, in consultation with the provost and other colleagues, President Hennessy decided to establish this task force.

“There are three issues that the task force was most vitally concerned with in the charge to the task force. One was that we should maintain these advances that have been made in the past 15 years; second, that we would continue our commitment to need-blind admission, and [third], that we would ensure a strong residential-based undergraduate experience.

“From the outset, our discussions led us to consider whether we might not see the possibility of expansion as something else, as an opportunity to take our accomplishments one step further. In other words, might our goal not be simply to maintain the achievements in the undergraduate program, but enhance them?”

Professor Saldivar noted that the task force is composed of 18 members of the Stanford community, eight trustees, eight faculty, one member of the staff and one student and two who served as staff to the Task Force. He summarized the many meetings the task force as a body or some of its

members have had with various interest groups—students, faculty, administration, alumni and other groups.

Mr. Canales took over. He also thanked the Senate and re-iterated that this was an interim report that will be influenced by today’s discussion with the Senate.

He reviewed the changes in the student population (undergraduate, graduate and post-doctoral) over the past 50 years.

	<u>50 years ago</u>	<u>20 years ago</u>	<u>2007-2008</u>
Undergraduates	5,290 (63%)	6,571 (47%)	6,759 (41%)
Graduates	3,096 (37%)	6,721 (48%)	8,186 (50%)
Postdocs	0	605 (4%)	1,506 (9%)

“...I would observe three points. One, we have seen significant growth in the student population on this campus, which...has implications in terms of facilities, the look and feel of the campus, and a wide variety of [other] issues...The second point is in terms of proportions, we were about 63% undergraduates 50 years ago, roughly even 20 years ago, and today, with the [growth of the] graduate population and postdocs, the undergraduates [comprise] 41%.

“The third take away is, particularly from 20 years ago to today, is [that there is] not much movement in the size of the undergraduate student body, but significant growth in both the graduate and...the postdoc population.

[The next slide showed a sharp rise in undergraduate enrollment from 5,300 in 1957 to 6,500 in 1974 and then only a slight rise to 6,700 in 2007.] [Please note that the figures used to describe this slide and subsequent slides are approximate and rounded off and are for illustrative purposes only.]

“...But in terms of the undergraduate student enrollment, you would see significant growth to about 1974, and then over the last 35 years...the trend line is relatively flat.

[The next slide showed a sharp rise in graduate enrollment from 3000 to 6000 in 1970, a plateau until 1980, and then a steady rise to 8,000 in 2007.]

“If you look at graduate student enrollment, over that 50-year period...some growth happens into the 1960s and then a flattening occurs up until the late ’70s...And then in the early ’80s you see a significant trend [upward] to well over 8,000 graduate students within that roughly 25, 28-year period [to today].

[The next slide showed a steady growth in the professorial faculty from 500 in 1958 to 1,800 today.]

Professor Saldivar commented, “This slide shows that there has been growth in faculty as well. But that doesn’t tell the whole story. Let me break it out for you a little bit more clearly.”

[The next slide showed the growth of the faculty divided into tenure track, non-tenure track and medical center line. The tenure track faculty grew from 500 in 1958 to 1,000 in 1971; after that the increase was much slower, reaching 1,300 in 2008. The non-tenure track varied from 75 in 1979 to 125 in 2008. Beginning in 1990 the new Medical Center Line grew rapidly to 400 in 2008].

“This slide shows a much clearer picture of the situation for the faculty in roughly the same time period. From fall 1957 to fall 1968, the size of the faculty increased from 493 to 993, about 6.6% annually. From fall ’68 to fall ’76, the faculty size was almost flat...increasing by only 76 during those same eight years. Starting in 1977 nontenure track faculty were included in the count for the first time, immediately adding 86 to the total...[Then] the Medical Center Line was established in 1991 [which] added to the growth in faculty size. The main point is that the majority of the increase has been growth in the Medical Center Line.”

[The next slide was a table depicting non-teaching staff growth. The total number was 6,282 in 1997 and 9,384 in 2007 (a 49% increase)]

“There’s been a growth, as well of nonteaching staff. The last ten years has shown strong growth of nonteaching staff in virtually all areas [but] in particular, in the Medical School, in the Graduate School of Business and in Residential and Dining Enterprises, where we’ve seen the largest growth.

“The point of this is over that time period there has been a great deal of growth, in the number of people on campus [students, faculty and nonteaching staff].”

Professor Saldivar said the task force then turned to the question—at what point does the growing imbalance between the undergraduate and graduate student population become a significant factor? “At one point Stanford was primarily an undergraduate institution. Now it has become primarily a graduate institution. Is this something that we should be concerned with?”

Mr. Canales then presented key findings of the task force.

“The first key finding is that in response to the question that President Hennessy charged to us look at [about the quality of the students enrolled,

which we posed in this way]—does the admissions pool possess sufficient depth in order to accommodate a growth of approximately 15% in the undergraduate student body, roughly 200 students? We had a session with [Dean of Admission] Rick Shaw [and learned] that the admissions pool is sufficiently deep that expansion of 15% would not dilute quality.

“The second key finding [resulted from an] the exploration of [the potential effect of] expansion... [From] meeting with a variety of groups across the campus, our own deliberations and our own experience as trustees, faculty members, and students, as well as in reviewing a lot of work that has been done on...issues related to the quality of undergraduate education and quality of undergraduate life...a range of concerns with Stanford’s current situation [has emerged]. To put it in its bluntest form, as several people have said—how could you think of expanding, given the range of concerns, issues, and problems...that exist today?”

Mr. Canales emphasized three main concerns about the effect of expansion:

Housing (“overstuffing” and lack of coherent vision). “One is the housing issue which we are attending to, but [related to it is] a question—what is the vision for housing for undergraduates at Stanford University? Is there a coherent vision that guides the way we think about housing at the university?”

Residential education and faculty engagement. “The second one, and it does tie...to the physical plant, has to do with residential education and faculty engagement in the residences. [It is] a theme we have heard in a number of places...It is one hopefully that will occupy a part of the conversation we are eager to have with you today to hear your thoughts on this question.”

Enrollment imbalances in some academic departments. “The third concern is — and we heard this from a number of faculty as well as students — that there are enrollment imbalances in a number of the academic departments, and what would expansion do to those academic departments that are already feeling overstretched as it is?”

“The third key finding has to do with cost implications...they would be significant. Based on the analysis Tim Warner [Vice Provost for Budget and Auxiliaries Management] and his group did, the [estimated total cost] was approximately \$700 million for an addition of 800 students [200 per class] [an estimate] which I think is quite low...If you were to factor in a number of things...capital needs associated with new housing... incremental increases in faculty and staff in order to accommodate that...growth...[and] Stanford’s commitment to need-blind financial aid for those additional students, and the endowment necessary to produce that...when we reported this [cost estimate], the trustees said...it’s a low number. The [estimates

ranged] up to a billion dollars. At this point [we are presenting this estimate] simply to give [you] a sense of the magnitude of the cost.

“It does raise questions in two forms, one I think more timely today. [First] is this the best use of this additional investment for the university? [Second, especially in the light of] today’s economic environment, is this the right time to undertake this kind of investment?”

Professor Saldivar turned to some unanswered questions.

Target for expansion...”What kind of expansion would we be talking about? If we were to increase the size of the undergraduate class, would we do simply a “radial” expansion, in other words, more of the same, using our existing criteria, just...adding another 200 per class, for instance? Or might we take this ...opportunity [to look] at a more targeted focus on the undergraduate population?

“For instance, in the context of the international initiatives, [should the expansion consist of] a larger percentage of international students, or...a more equitable or more even regional distribution? There are any number of ways that [having]... a targeted population would affect the look and feel of the undergraduate class.”

Look and feel of the campus “The subjective issue, ‘look and feel of the campus’ [raises the question—] how would we gauge that? The question basically is this: At what point does the campus acquire a density that is too high, that makes it feel different from the Stanford we know and love, where the green areas have begun to virtually disappear, where it feels more like an urban campus rather than the campus that we presently know?”

Sequence and timing “...If we were to decide to expand the size of the undergraduate class, would we address the questions that Jim [Canales] has referred to, the issues that have arisen in our gathering of information *first*, or would we do it *concurrently* with expansion?”

Mr. Canales reviewed the next steps to be taken by the task force. “The fall has been devoted to outreach sessions with trustees, members of the ASSU, and all of you. This is an opportunity to receive that input and have that inform the task force’s continuing deliberations in November and December. That’s where we are in terms of our timetable.

“Our plan is to refine these key findings and to [develop recommendations for the final the report], with the idea that we would...deliver the final report to the President by the end of this year or the early part of 2009. [It] is important to stress this is all very much in process, but we wanted to have an

opportunity to share with you where we were in our exploration and to benefit from your input.”

Professor Saldivar showed the last slide. “Finally, then, this last set of questions are issues that have occurred to us for possible discussion today, although there are I’m sure many other such we would want to consider.”

1. What do Senators view as the compelling reasons to proceed with undergraduate expansion? What are central arguments against expansion at this time from the faculty’s perspective?
2. The Task Force’s work has raised concerns about Stanford’s residential education, housing and advising programs—do the faculty share these concerns? If so what are the specific concerns that faculty have?
3. Should addressing these concerns occur prior to a decision to expand or as part of a decision to expand?

With that Professor Saldivar and Mr. Canales ended their presentation and awaited questions from the Senators.

Chair Cook thanked Professor Saldivar and Mr. Canales and asked President Hennessy if he had any remarks before the general discussion began.

President Hennessy commented, “I think this is a very good summary by Ramon and Jim, and I thank them for coming today. Obviously we find ourselves in a very different financial environment than we did just a few months ago. So my anticipation is that any such movement would now be stretched over a much longer period of time, and be considerably delayed if indeed we contemplated doing it, because there is a substantial outlay of expenses that would be needed, even if we proceeded concurrently on many of the improvements that have been cited in the report. So that’s the only caveat we should attach to the conversation.”

Professor and Vice Provost for Faculty Development Pat Jones opened the discussion and asked for clarification of the cost estimate of \$700 million. “Obviously there would be an initial outlay...towards hiring incremental faculty, but then there’s the ongoing increment to the general funds budget which I see in President Hennessy and Provost Etchemendy’s [email referred to above which was sent October 30, 2008] is currently \$800 million. One could see potentially raising some of the initial outlay from a campaign whose target might be this expansion in the undergraduate population. But that wouldn’t necessarily provide the ongoing increase to the general funds budget. So is this \$700 the initial outlay?”

Professor Saldivar: “For the most part, yes. That would be one-time expenditure—[hiring] the faculty, modification of the residences, dining halls, advising staff, things of that sort.”

Mr. Canales added, “I wish Tim Warner were here [to help answer that question.] My recollection is...that it is a combination of one-time expenses as well as endowment to cover the incremental financial needs going forward.”

President Hennessy commented, “Financial aid and faculty are the two largest pieces of that number. We would endow for that.”

Vice Provost for Graduate Education Patricia Gumport added that grad students are included in the estimate and the president agreed.

Provost Etchemendy commented, “It is not clear that \$700 million is the right number. It’s somewhere between \$700 million and \$1 billion, probably. But it does include ongoing costs by including endowment for faculty, new faculty chairs, financial aid, and unrestricted endowment to cover the staff increases that you would require in different parts of the university. That endowment plus the [income from] incremental tuition ought to cover the [ongoing] costs.”

Professor Jones noted, “That amount isn’t totally unreasonable for a campaign; it’s more than the current or previous campaign, but it depends on our friends being willing to make those contributions.”

Professor Simoni had a different view of the budgetary aspects. “It seems to me that you focused on the expense side. There’s the revenue side. And what could be more timely as a discussion of that right now?

“The numbers you come up with are dependent on what kind of accounting you use, right? [You could view] this as a marginal accounting exercise. I think there is revenue to be gained from increased tuition income. This is, as I understand it, basically what Princeton has done. I happen to think [expansion] is a really good idea...On the list of pros and cons you’ve provided, I don’t find any of the pros...particularly compelling, save one of them. And of the cons, I don’t see any of them compelling. [Some of the ‘con’] issues you raised are really important, but they’re not related to the expansion in any important way. If we’re not doing a good job [referring to the concerns listed earlier about present problems—housing, residential education, enrollment imbalances, etc—that might be exacerbated by expansion] we ought to fix it. End of discussion. And while an increase of 15% could exacerbate the problem, it certainly is not going to make it enormously worse. So my simplistic view of this is—yes, this is something we ought to do. We have the plant, we have the faculty, and we have the

facilities. We ought to admit more students, and we ought to use the tuition increase as revenue for the Biology Department.”

[Laughter]

Professor Alex Aiken had a question and a comment. “You said we could [increase enrollment by] 15% without diluting quality, so I want to understand where the boundary is. Is 15% the maximum you could admit without diluting quality or could you actually double the number of students without diluting quality, and 15% is just a target you’re considering?”

Professor Saldivar replied that based on their discussions with the Dean of Admissions Shaw, a 15% increase was no problem. He didn’t think Dean Shaw had a specific percentage point that he would say beyond [which] it wouldn’t work.

Professor Aiken concluded, “But the risk of admitting 15% more is very low. Essentially this number is unlikely to change in the future [such that] we would suddenly find that we didn’t have enough students that were qualified... With respect to Bob’s [Simoni’s] comment just using quick arithmetic, there’s 800 new student bodies under this plan, roughly, and \$700 million cost. That works out to \$1 million a student. Tuition is not going to cover much of that. So I don’t quite see...how the increased revenue would be commensurate with the cost...But having said that...it seems very unlikely that the world is going to need fewer educated people in the future. If anything, we’re going to need many more of them. So it falls as our responsibility to educate as many as we can afford to do.”

Professor Bravman weighed in on the calculation: “The tuition flow is after the \$700 million, which has to be a one-time need.”

Professor Anat Admati observed, “...Whenever we talk about expansion, the permit issues [the General Use Permit of Santa Clara County, GUP] should come to mind. How much is feasible, in this area, with these counties around us?”

Provost Etchemendy: “First of all, the housing is not a problem, because in fact, the county wants us to build more housing [as we are doing for students]... There would be an impact in that we would have to house the new faculty. We would have to provide office space for the new faculty...and space for the new staff, to the extent that we [add] staff. I think this calculated [to be] 40 faculty, [therefore] 40 offices, and then of course [additional space for] teaching—classrooms, student teaching labs...It would be doable.”

Professor Admati noted, “I know Yale is planning two more colleges.”

Professor Eric Shaqfeh said, "...What I actually didn't see in your graphs was dividing the actual students by the number of faculty. Is there some target [for the] student-to-faculty ratio? Because one worry you might have is—stress [on faculty] and stress presumably is somehow proportional to that ratio...how did the number 40 for example get decided? What is the total student-to-faculty ratio?"

Provost Etchemendy answered that top undergraduate student-faculty ratio is a little under 7 to 1, student to faculty. Professor Shaqfeh nodded, "Yes, that is the relevant ratio. And you want to keep that constant?" The provost confirmed that he did.

Stuart Baimel, the representative from the undergraduate Senate stated that, "...the undergraduate Senate has discussed this [idea of expansion] extensively, and I would like to present a couple of observations followed by one big question. The first observation is that the number of high school seniors in the United States is [projected] to peak this year or next and then it will begin to decline. So it seems unlikely that, [there will be] additional applications above the 24,000 or so we received [this year]. The second observation is that even after planned expansions, Harvard, Yale, and Princeton will all be smaller than our planned expansion. The main concern that the undergraduate Senators have is [the effect of expansion] on...advising, library space, student group funding, and most importantly, special programs, such as overseas studies, introductory seminars, Sophomore College, and Stanford-in-Washington. What we are concerned about is that these things...will not be expanded to meet the additional student needs. Not only that, but [even now] many students don't get to go overseas because they are rejected; many students do not get to go to Stanford in Washington, many students do not get to enroll in Sophomore College. So one concern that we have is that already many students are denied these programs and that in the future even more students will be denied [access to] these programs. So I think that the Senate as well as the task force needs to consider not only the large capital costs, building, faculty, and things like that, but also the many important smaller programs that not only need to be improved now to meet the current student demand, but also will need to be expanded to meet future demand."

Professor Buc commented, "I thought it was a very interesting report, with a lot of data. But I would need more data, actually. Over the [prior] years of expansion, how have we followed up in expansion of lab space, classroom space [and other] facilities [to accommodate] the expansion; that's important to get a sense of this stress [on the faculty]. The driver in your presentation [i.e., the expansion of the graduate cohort] may not be the driver you would want. Actually an argument is [that] the increasing number of residents that are [graduate students might create opportunities for the] undergrads if they interact and if we can wean undergraduates

away from the notion that graduate students are bizarre nerds...I would want to know what kind of graduate students are we getting, are these medical school students who are in a corner of the university? Are these law school grad students or are these business school grad students?"

Dean of the Medical School, Philip Pizzo interjected, "What corner?"

Chair Cook answered for Professor Buc, "That giant quad."

Professor Buc made the case for having an abundance of graduate students: "Either...the distribution of incremental grad students since the '70s is lopsided and bad, or we're actually getting the kind of graduate students who could, if we work a little bit more to integrate them, actually enhance the undergraduate experience. I mean [there are]...faculty among us who [once] were grad students that the undergrads looked at as...Martians who wear bike helmets."

[Laughter]

Professor Saldivar replied, "It [the ratio of graduate students to undergraduates] wasn't intended as an argument, but rather a consideration that has been raised in our discussion."

Professor Andrea Goldsmith began her comments by acknowledging that she went to "...the big school across the bay for my undergraduate degree [which had a] very large undergraduate population. One of the beauties of Stanford is the smallness of the undergraduate population [and the opportunities consequently available in the form of] freshman seminars, research, and the [overseas] programs. How would those be impacted by expanding the undergraduate population?...[The second comment is] I've yet to see a really concrete compelling argument as to why we want to expand, given not just the cost but also the impact it will have on our undergraduate program and its quality."

Professor Harvey Cohen agreed with Professor Goldsmith. "I haven't heard a really compelling argument. If we were a state school and we felt an obligation to the...individuals in the state to educate them, then I can understand, if the [state's population was growing], we'd want to have more students. But I don't really see the argument that...we are somehow doing a service by admitting more highly qualified students. Because my sense is that [those] students will get admitted somewhere. We're not...preventing them from getting the education. Whether we do this or not should be [because] either it's going to make a better university or a better world. And I have not heard that [argument]."

Professor Cohen, quoting the provost's remarks that Professor Panofsky's tenure helped change Stanford from a good regional institution to a world class university, noted, "...if you look at how that's happened, actually, if anything, it has been related to the increase in graduate students. So I don't have a problem with the fact that the ratio of graduate students to undergraduate students is higher...it makes it a better institution for our undergraduate students, because they get to see what's next in life, and they have role models."

Professor Robert Dutton remembered a time in the School of Engineering when the increase in student enrollment was driven by income-related requirements. "...How many of our undergrads actually go on to co-term degrees which [eventuates] into the graduate population....We have a huge opportunity, from a point of view of American citizenry training, to leveling up that population."

Professor Hank Greely commented that this discussion is one of the best reasons to have a Board of Trustees. "Because this is the sort of question somebody has got to decide who has got a broad overview of the university and its place in the world, and is not so intimately connected with particular parts of the university, like the faculty... administration and current students [who would] have a somewhat parochial view...I have three points that...I hope will help inform the Board's decision, [to go] from 'small' to 'just a little bit bigger than small'."

"First...if we want to keep a 7 to 1 ratio of undergraduate students to faculty teaching undergraduates, and we want to add 800 undergraduate students, we need to hire more than 40 new faculty. It looks more like a 100 new faculty to me, which will probably come with a couple of graduate students each, a couple of staff each, and maybe a postdoc each. So overall I think we're looking at 1400 to 1500 more people on the campus."

"Second, that is 1400 to 1500 more people on the campus who have to be almost entirely on the central campus. And although we're safe with respect to the housing issue, there is...continuing pressure to minimize the number of people on campus...the number of cars, and the number of trips...So...one of the additional costs will be the 1000 to 1400 people being moved off the campus, which have its own set of costs...but also may change the place. One of the great things about this school is that all of our schools are within walking distance of each other, and I'd hate to see us lose that.

"My third point is that...if there is an argument [for changing the ratio of graduate to undergraduate students] you have to establish what the right ratio is...The argument about changing the environment for the undergraduate students by having a greater number of graduate students is an interesting

one, but... we've already heard comments that that increase could cut either direction.

“There’s a more subtle argument, I think, that having a largely graduate student base to the school changes the internal political economy of the university and what it cares about...but I don’t know how it comes out.

“So to end...I don’t know how I would vote if I were on the Board [of Trustees]. I did raise this with my wife last night, and I have learned over 25 years that my wife is always right.

[Laughter]

—she said, ‘Well, of course. Is there any higher mission for the university than to train undergraduates?’...And just to go back to Harvey’s [Cohen] point about our obligations vis-à-vis a state school, as I recall, Leland and Jane Stanford...wanted the school to educate the children of California and the West...I hope they would expand that [goal] more globally now. But that was a major part of their goal and should continue to be a major part of our goal.”

Mr. Canales responded to Professor Greely’s comment: “With respect to the slides on the growth, you’re right. To the extent that [the numbers of undergraduates versus graduate students] may have come across as an argument ...leading in a certain direction, that was not the intention. The broader point is—we know that in this university growth happens. The question is—is the growth intentional, strategic, and done in a thoughtful manner, or is the growth decentralized, or haphazard, and without anyone...thinking about the university as a whole, and the relative proportion of various parts of the university?

“That’s the question that we are seeking to force. We are not in a position to answer that question; it’s not something we were charged to do. But we think it’s an interesting question that we’d like to bring back to the president and to others who are responsible for thinking it.

“Second, some people find the ‘moral argument’ compelling...Stanford educating more students is a wonderful thing and good for society...I do not find myself compelled by that argument...But one thing I find interesting...is that if...15 years ago this university made a quantum leap in the quality of undergraduate education through the commission and the work that followed it, the question is –is [the possible] expansion...the leverage point that provides the opportunity for the university to make a similar quantum leap today, given...these other issues [that]...are there and quite frankly, have been present for some time.

“It’s not as though...all of these issues we spoke about earlier have just bubbled up in the last 12 months. They’ve been around. And the question is—is this an opportunity to...think about the quality of the undergraduate experience, undergraduate education, and undergraduate life in its totality?”

President Hennessy clarified the assumption about the number of additional faculty: “You’re exactly right, Professor Greely. That assumption of 40 to 50 [additional faculty] is based on the fact that we will add, through what’s currently happening on campus, approximately 50 faculty, that began a few years ago. So we’re in the process of growing the core faculty, which would drive the student-to-faculty ratio down... In the case of Princeton’s expansion, they added relatively few faculty because of the fact the student ratio had [already] fallen.”

Professor Albert Camarillo expressed his appreciation to Professor Saldivar and Mr. Canales and the task force members. But summarizing the many considerations involved in even a small increment of undergraduates, the costs, and the current economic uncertainty that has led to the cautionary email from the president and provost referred to earlier, he did not find a compelling argument for expansion.

Professor David Burke also had trouble understanding a compelling argument for expansion. He turned to the question of radial versus targeted expansion. “If you’re thinking of limited resources...have you looked to see if you could identify some targets of opportunity, targets that may be more limited in scope, rather than 200 per class, which would address other issues such as underrepresented minorities? [It] would be a way to expand and address other shortcomings that already exist in the undergraduate population that...would have a big impact on the quality of undergraduate education in a more limited way. Have you taken [into account that question] in those discussions with other groups around here?”

Professor Saldivar commented. “[The number]...200 is strictly a speculative number...The task force hasn’t set that as their target goal. Moving towards a more specific target, there is more opportunity.”

Professor Burke also asked if the task force considered targeted expansion.

Mr. Canales shook his head. “We have not, and the reason...is that we felt it [was] beyond the purview of what we were asked to do...”

Professor Keith Baker commented, “...if I were going to make a case for an increase at this point in the university’s history, I would pick up on something that John Etchemendy said earlier, that Stanford has grown from a regional university to something that would like to be a world university. The argument for increasing the student body would be that we could bring

more of the world here. That is...we want to have a larger international student body...I don't know how I feel about this, but that seems to me to be one of the more compelling arguments, one of the more concrete arguments for doing this. What are the more concrete arguments for doing this?"

Professor Saldivar: "...the actual targeting of a population...as Jim just said...is not part of our charge..."

Keith Baker rejoined, "But there's something really very odd about this discussion, which is—Why did this issue come up? Is it a financial issue? ...Is there a sense that an increase in the undergraduate body would be a net benefit to the university financially? If it's not that argument, then it seems to be a good idea in search of a rationale. And there seems to be something backward about the argument."

President Hennessy addressed Professor Baker's question: "Let me set the stage, taking us back...to when I first wrote that column...in the beginning of summer of last year. The total endowment would reach an all-time high in October and the endowment per student would reach an all-time high. Meanwhile, the public institutions that Professors Cohen and Goldsmith cited were under tremendous financial pressure. Almost all the expansion to meet the increased demand throughout the country for more college-prepared students has been met by the public institutions. It was clear that they were failing to keep up...class sizes had increased; students were not able to get into the majors. Our friend, Senator Grassley [Charles Grassley of Iowa], was asking questions about how we were using our endowment and whether or not we were providing more opportunity for students. [There was a general] feeling among the trustees that we were not becoming global fast enough and were not doing enough to expand the number of students at a time when we were turning down highly qualified U.S. students. The notion that we would cut back the number of U.S. students to admit more international students was certainly going to generate lots of consternation among parents in the U.S. as well as alumni parents. I think all those factors came together to lead us to ask the question—is this [expansion] something we really should consider? As several senators have pointed out, this observation [about the difference] between the growth of the undergraduate and the graduate population isn't an argument in favor of it. But it is a question, as Senator Greely correctly said, that we need to contemplate—what is the nature of the university? What is the importance it puts on its undergraduate population versus its graduate population, and how should that both be balanced going forward? It has shifted clearly in a very distributed fashion, without certainly any intention of the last 20 years to cause that shift.

“I think these are questions that set the bar for a very big mission given to the task force—to begin to work through some of these issues. A lot has changed since then, obviously.”

Professor Gordon Chang commented, “What I get from this discussion is that there’s been somewhat of a drift of your mission...As the discussion has unfolded, [what] we’re talking about is the very nature of the future of the university, up and down the line, in every aspect...What has started out as perhaps one important corner of the university’s activities has raised fundamental issues that are challenges to everything...A number of good questions have been raised. So I’m wondering if you feel...your charge is reasonable at this point, and that you can actually...go ahead, given the discussion that we’ve had here? I don’t think it’s possible, given the big questions that have been raised here— the very nature of the university, the university’s place in the world, admissions, housing, finances, quality of education, the ratio of this and that. This is a lot for you guys to think about.”

[Laughter]

Mr. Canales agreed, “...Your point of mission creep is absolutely right...I think we have felt somewhat hamstrung...not to go beyond the very clear set of questions we’ve been asked to address...Inevitably we’re beginning to drift into other areas. At least speaking for the two of us, we have discomfort doing that. There are members of the task force, by the way, that would be quite enthusiastic about the opportunity to engage in those other questions.”

[Laughter]

“Our task is to not drift into those questions. But we have an obligation to present a report that as thoughtfully as possible surface these issues that somebody needs to address. That’s what we intend to deliver to the President and then he will determine how best to [proceed].”

Professor Saldivar stated his complete agreement with Mr. Canales.

Chair Cook, looking at the clock, said, “...I want to abide by my commitment to let you leave at 5 o’clock. John wanted to say something, and then we’ll take Margaret. This has been a great discussion, and you know [the provost’s] e-mail address. John?”

Provost Etchemendy hesitated, “I hate to use up one of the last two questions.”

Chair Cook (quickly), “You can pass. Feel free.”

[Laughter]

The provost appeared surprised—and did indeed pass, commenting, “She’s a good Chair.”

Professor Margaret Brandeau: Since Provost Etchemendy has passed, I will add a comment for the board. To me, the argument for expansion is certainly not that we want to serve the world. But I think that our undergraduate students are really one of the treasures of the university. We have seen the [number of] graduate students increase, and I think in some cases perhaps the quality has not necessarily been there in some of the masters programs expansions. [But as for] undergraduates, I get the sense that there are many brilliant students we’re not admitting. This may not be the right time to admit more students, given, the monetary issues. But I think that we just need to keep the balance right and there are so many brilliant students that we are passing on that could fill our grad schools. They could become emissaries to the rest of the world. To me, that would be the argument for expansion, is to keep strong one of the treasures of the university.”

Chair Cook asked, “Does someone have a more important question than the Provost?”

[Laughter]

“—Here’s one.”

Professor Jonathan Bendor asked, “. . . What are the implications of turning people down? . . . If we’re turning somebody brilliant down, they’re going to Princeton and Yale and Harvard and so forth. So there’s a bumping-down effect. We’ve got a large system of supply and demand here. So there’s some effect [when] we’re not taking this particular person. But that particular person is [going to] get an excellent education. It’s only the marginal student. . . who is not getting a college education [if we decide not to expand], but it’s not those [brilliant] students. I think that’s the important thing to focus on.”

Chair Cook, turning to Professor Saldivar and Mr. Canales, “Thank you. You did a great job of presenting.”

[Applause]

## **VI. Unfinished Business**

There was no unfinished business.

**VII. New Business**

There was no new business.

**VIII. Adjournment**

A motion to adjourn was seconded and passed unanimously. The Senate adjourned at 4:50 PM.

Respectfully submitted,

Rex L. Jamison, MD  
Academic Secretary to the University

October 30, 2008  
**Meeting of Senate XLI**  
**RECORD OF ATTENDANCE**

Name	Unit
P Admati, Anat, <i>Graduate School of Business</i>	01
P Aiken, Alex, <i>Computer Science</i>	04
P Anderson, Lanier, <i>Philosophy</i>	08
P Applebaum, Mark, <i>Music</i>	08
A Arvin, Ann, <i>Vice Provost &amp; Dean of Research</i>	<i>ex officio</i>
P Baker, Keith, <i>History</i>	07
P Bambos, Nicholas, <i>Management Science and Engrg</i>	04
P Beach, David, <i>Mechanical Engineering</i>	04
P Beasley, Malcolm, <i>Applied Physics</i>	06
P Bendor, Jonathan, <i>Graduate School of Business</i>	01
P Bent, Stacey, <i>Chemical Engineering</i>	04
A Berek, Jonathan, <i>Obstetrics &amp; Gynecology</i>	13
A Berger, Jonathan, <i>Music</i>	08
P Blau, Helen, <i>Microbiology and Immunology</i>	12
P Boardman, Gregory, <i>Vice Provost for Student Affairs</i>	<i>ex officio</i>
P Boxer, Steven, <i>Chemistry</i>	06
A Boyd, Stephen, <i>Electrical Engineering</i>	04
P Brandeau, Margaret L., <i>Management Science and Engrg</i>	04
P Bravman, John, <i>Vice Provost for Undergraduate Education</i>	<i>ex officio</i>
P Buc, Philippe C., <i>History</i>	07
P Burchat, Patricia, <i>Physics</i>	06
P Burke, David, <i>SLAC</i>	10
P Cabrera, Blas, <i>Physics</i>	06
P Callan, Eamonn, <i>Education</i>	03
P Camarillo, Albert M., <i>History</i>	07
A Carstensen, Laura, <i>Psychology</i>	07
P Chang, Gordon, <i>History</i>	07
P Chu, Gilbert, <i>Medicine - Oncology</i>	13
P Cohen, Harvey, <i>Pediatrics</i>	13
P Cook, Karen, <i>Sociology</i>	07
A Drell, Persis, <i>Director of SLAC</i>	<i>ex officio</i>
P Dutton, Robert W., <i>Electrical Engineering</i>	04
P Eckert, Penelope, <i>Linguistics</i>	08
P Elam, Harry, <i>Drama</i>	08
P Elam, Michele, <i>English</i>	08
P Eliashberg, Yakov, <i>Mathematics</i>	06

Name	Unit
P Etchemendy, John, <i>Provost</i>	<i>ex officio</i>
P Fire, Andrew, <i>Pathology</i>	12
P Goldsmith, Andrea, <i>Electrical Engineering</i>	04
A Gordon, Deborah, <i>Biology</i>	06
P Greely, Hank, <i>Law</i>	09
P Gumpert, Patricia, <i>Vice Provost for Graduate Education</i>	<i>ex officio</i>
P Harris, Jerry, <i>Geophysics</i>	02
P Hennessy, John, <i>President of the University</i>	<i>ex officio</i>
A Horwitz, Ralph, <i>Medicine</i>	13
P Jamison, Rex, <i>Academic Secretary to the University</i>	<i>ex officio</i>
P Jones, Pat P., <i>Biological Sciences</i>	06
A Joss, Robert, <i>Dean of the Graduate School of Business</i>	<i>ex officio</i>
P Keller, Michael, <i>University Librarian &amp; Dir. of Acad. Info.</i>	<i>ex officio</i>
P Kramer, Larry, <i>Dean of the Law School</i>	<i>ex officio</i>
P Lavori, Philip W., <i>HRP – Biostatistics</i>	13
P Lazzeroni, Laura C., <i>Psychiatry and Behavioral Sci</i>	13
A Lipsick, Joseph, <i>Pathology/Genetics</i>	12
P Marshall, Larry, <i>Law</i>	09
A Matson, Pamela, <i>Dean of the School Earth Sciences</i>	<i>ex officio</i>
P Osgood, Brad, <i>Electrical Engineering</i>	04
A Pfleiderer, Paul, <i>Graduate School of Business</i>	01
P Pizzo, Philip, <i>Dean of the School of Medicine</i>	<i>ex officio</i>
P Plummer, James, <i>Dean of the School of Engineering</i>	<i>ex officio</i>
P Ridgeway, Cecilia L., <i>Sociology</i>	07
P Saller, Richard, <i>Dean of the School of Humanities &amp; Sciences</i>	<i>ex officio</i>
A Satz, Debra M., <i>Philosophy</i>	08
P Shaqfeh, Eric, <i>Chem Engrg and Mech Engrg</i>	04
P Sheppard, Sheri, <i>Mechanical Engineering</i>	04
P Simoni, Robert D., <i>Biology</i>	06
P Sommer, Matthew, <i>History</i>	07
P Stearns, Tim, <i>Biological Sciences</i>	06
A Stedman, Stephen, <i>FSI-CISAC</i>	11
A Stipek, Deborah, <i>Dean of the School of Education</i>	<i>ex officio</i>
P Summit, Jennifer, <i>English</i>	08
A Willinsky, John, <i>Education</i>	03

**Present on Invitation or by Request:**

Dan DeYoung, Gregory Loew, Adele Panofsky, Helen Quinn, Susan Maher, Serge Plotkin, Phil Reese, Ramon Saldivar, Jim Canales, Jeff Wachtel

**Present on Standing Invitation:**

Kathleen Sullivan, Stuart Baimel, Agnieszka Czechowicz, Lindi Press, Stephanie Kalfayan, Ginny McCormick, Mike Antonucci

**Outside Press:**