UNIVERSITY OF CALIFORNIA, LOS ANGELES **UCLA**

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August 5, 2008

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Christopher Evans, Psychiatry and Biobehavioral Sciences
Michael Fanselow, Learning and Behavior/Psychology
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Kelsey Martin, Psychiatry and Biobehavioral Sciences
John Mazziotta, Brain Mapping Center
Russell Poldrack, Cognitive Psychology
Arthur Toga, Neurology
Peter Whybrow, Psychiatry and Biobehavioral Sciences
Lawrence Zipursky, HHMI/Biological Chemistry

Dear Colleagues:

I am pleased to invite you to join a task force to review the neurosciences at UCLA and chart the path to their greater strength and prominence.

As you know, a Blue Ribbon Panel chaired by David Baltimore recently reviewed the biosciences at UCLA. In their report (attached) they noted high faculty morale and some areas of exceptional strength in neurosciences but also a potential to achieve national prominence and leadership for UCLA in this area.

To achieve this goal we need to have a complete, campus-wide review of all aspects of neuroscience including faculty, facilities, training programs (basic and clinical), resources and academic/administrative organization and policies. We will also need to develop a strategic plan that includes:

1. Themes for growth, recruitment and fundraising.

2. Deficient areas in need of recruitment or augmentation.

3. Areas of decline that should be discontinued.

4. Opportunities for consolidation of parallel or duplicate efforts.

5. Strategies to raise national and international awareness as well as public and private financial support.

6. Implementation steps to achieve these strategic goals.

I ask that the task force address the following questions:

1. What are the strengths and weaknesses of the neurosciences at UCLA? I encourage the task force to undertake internal and external reviews of the field as the basis for its planning and recommendations.

2. What aspects of neuroscience should UCLA emphasize and invest in? What areas of neuroscience would be less likely to develop into nationally prominent programs for UCLA? In what areas of study can UCLA best develop, or extend, a distinctive presence and a competitive advantage?

3. What programs should we support or create to achieve clinical and basic science alignments in some areas of neuroscience?

4. To achieve excellence in the neurosciences, what short-term steps can we take, keeping in mind the budget constraints we face? What long-term strategies should we initiate or prepare for? How might these goals and strategies be framed for a capital campaign?

5. What would we suggest from these plans regarding faculty and graduate student recruitment as well as clinical trainees?

6. To what extent does UCLA's academic structure, organization, policies and procedures facilitate versus impede excellence in neuroscience? How can UCLA promote coordination and collaborations in neurosciences across school and disciplinary boundaries? What academic structure, organization, policies and procedures should be changed to achieve these goals?

I am delighted that Dr. John Mazziotta has agreed to chair this task force. Recommendations from the task force will be received by an executive council consisting of Acting Executive Vice Chancellor and Provost Scott Waugh, Vice Chancellor Gerald Levey, and Dean Emil Reisler. They will meet with the task force to discuss and formulate recommendations before forwarding them to me.

If you are unable to serve on the task force, please let me know. Otherwise, Dr. Mazziotta's office will be in contact with you soon to schedule the first meeting.

Thank you for your service in this important effort that will influence the development of not only neuroscience but all sciences at UCLA.

Sincerely,

Gene D. Block
Chancellor

Attachment: Biosciences Visiting Committee Report

Report of the UCLA Neuroscience Task Force

October 2009

Respectfully submitted,

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Note: Russell Poldrack, Ph.D., from the Department of Psychology was an original Task Force member. He relocated to the University of Texas, Austin during the course of the Task Force's deliberation.

EXECUTIVE SUMMARY

The Current State of UCLA Neuroscience

UCLA has a long and distinguished record of achievement in neuroscience. Representing the single largest group of faculty (582) and trainees (700) devoted to a single discipline on campus, UCLA neuroscience spans multiple schools, departments and organized research units (ORU's). The Neuroscience Task Force (NSTF) conducted a comprehensive data gathering process which included interviewing campus leadership, neuroscience faculty, trainees and donors and conducted a web-based survey of the entire neuroscience community. We assessed current financial and space resources. To obtain external opinions about UCLA neuroscience, the basic neuroscience leaders at eight nationally recognized universities were interviewed and the Task Force considered the findings of the recent Blue Ribbon Panel Chaired by David Baltimore. The task force focused its attention and provides this report on research activities including basic, translational and clinical research and the education of basic neuroscientists but not the evaluation or assessment of patient care and clinical education.

UCLA neuroscience annually generates approximately $198 million in extramural research funds and $36 million in philanthropic gifts (FY07-08). It occupies over 541,000 square feet of space of which 43% is committed to research. On average, core neuroscience departments[1] in the David Geffen School of Medicine generate approximately $1,754 in research funding per square foot of research space.

Both internal and external opinions indicate that there is outstanding neuroscience research on campus. In the last ten years, UCLA neuroscience faculty recruits have been excellent. Those who are now junior faculty have successfully competed for NIH funding and for prestigious non-NIH awards (e.g., Sloan, Klingenstein, Hillblom, McKnight and Howard Hughes Foundation). Those at mid-career levels have, in many cases, excelled and significantly enhanced the reputation of neuroscience on campus and beyond. Neuroscience faculty have published in high impact journals and are recognized nationally and internationally. A number of senior faculty members have been elected to the Institute of Medicine and the National Academy of Sciences.

Nevertheless, as pointed out in the Blue Ribbon Panel report and by the interview process, there is not a uniform level of excellence, scholarship and productivity for UCLA neuroscience. Such a communal sense of excellence can and should be built around existing strong programs. Mechanisms need to be put in place to make the standards for scholarship and scientific achievement uniform for UCLA research neuroscientists in all units, both basic and clinical. In addition, the Task Force found that UCLA neuroscience is lacking visible leadership and programmatic recognition at a national level and suffers from the lack of a unifying organizational structure that could optimize the use of resources, establish significant fund raising activities and enhance graduate education.

[1] Includes the departments of Psychiatry & Biobehavioral Sciences, Neurology, Neurosurgery and Neurobiology. Psychology, Physiological Science, Diagnostic Neuroradiology, Interventional Neuroradiology and the BRI are not included in this calculation because it was not possible to identify research space only used by neuroscience investigators.

Recommendations for The Future of UCLA Neuroscience

We recommend a three-step approach to transform UCLA neuroscience. First, reorganize the leadership and governance structure. Second, acquire new resources (funding and space). Third, recruit new faculty to existing strong programs and for emerging opportunities. To this end, the Task Force developed a strategic plan and a vision for UCLA neuroscience. To affect positive changes in organization, we recommend the establishment of the UCLA Consortium for Neuroscience (UCfN) designed to integrate and coordinate strategic decisions across campus for this discipline. UCfN would be comprised of two main groups – a Board and a Neuroscience Strategic Planning and Direction Group - and a number of supporting committees. A Consortium Chair/Associate Vice Chancellor for Neuroscience appointed by the Chancellor, along with these two groups, would oversee the visibility and reputation of UCLA neuroscience, recruitment and retention activities for faculty, organization of space, cores and equipment, oversight of the submission of select types of grants and the need to recognize and reward excellence by neuroscience faculty. The Task force is optimistic that traditional resources that currently exist in the UCLA neuroscience community can be organized to work together more effectively while preserving established administrative units. The Brain Research Institute would continue its excellent oversight of collaborative research efforts, affinity groups, symposia, cores, BRI endowed chairs, educational, outreach and communication activities across campus and its Director would be a member of both the Board and the Strategic Planning and Direction Group. An External Advisory Board, meeting biennially and made up of nationally recognized neuroscientists, would report to the Chancellor on all aspects of UCLA neuroscience.

To position UCLA neuroscience for increasing its philanthropic support, the Task Force recommends three themes chosen because they are inclusive, involve basic and clinical elements and are not specific to a single department or ORU. These themes are: Learning & Memory, Building & Repairing the Nervous System, and Brain & Behavior. It is critical that a fund raising campaign be launched to garner new resources for UCLA neuroscience before such a plan is announced by competing local entities and to provide the resources needed to execute the neuroscience strategic plan.

Lastly, the Task Force recommends the optimization of graduate neuroscience education and training. This would require combining the current programs into a single program with defined areas of excellence, re-evaluation of the admission process, mentoring program, and post-doctoral support and oversight. UCLA should also increase neuroscience education for patients and of the general public within the greater Los Angeles community.

We believe that these recommendations are financially, practically and politically feasible. Given the opportunities available on campus, the solid core of neuroscience expertise and the highly collaborative and large group of committed faculty and trainees, these changes are both timely and important. With the aid of the influential and affluent surrounding community, support for this plan should be easily realized. The Task Force is optimistic that UCLA neuroscience can be a national leader in what will be the most important scientific discipline of the 21st century.

THE STRATEGIC PLAN

I. Introduction: Neuroscience will likely be to the 21st century what physics and molecular biology were to the 20th century. It also serves a uniquely integrating function on a comprehensive university campus such as UCLA. Neuroscience is the natural link between the sciences and the humanities as it is the focal point for the understanding of human behavior, decision making, philosophy, education, economics, law, literature and the arts. UCLA has had a long and distinguished history in neuroscience and is poised, with the proper focus and strategic plan, to be a national and international leader in this discipline in the 21st century. Neuroscience is also the largest single discipline, in terms of faculty representation, of any on the UCLA campus. For these reasons, a comprehensive review of UCLA neuroscience and a plan for its future are both important and timely.

II. Process: The Neuroscience Task Force was charged by Chancellor Block in September 2008. The committee met approximately every other week, engaged the services of an outside consultant (AMC Strategies, LLC) in February 2009, and formed six working groups addressing the areas of education, philanthropy and community relations, governance, space, infrastructure and faculty recruitment, retention and promotion. The strategic planning process included four phases: 1) a research phase; 2) defining the global direction; 3) strategy development; and 4) the creation of a finalized plan and implementation strategy. As part of phase one, a series of interviews and surveys were conducted including: thirty-four internal neuroscience faculty and trainee interviews, three interviews with UCLA neuroscience donors, eight external interviews with non-UCLA basic neuroscience leaders and a web-based survey of all UCLA neuroscience faculty and trainees. Data was gathered on fundraising, space allocation, extramural funding, and numerous other variables (Strategic Plan, Appendices A-D). For phases two and three, the task force held an all-day retreat and two half-day strategy sessions. The committee considered the Blue Ribbon Panel Report chaired by David Baltimore (Strategic Plan, Appendix E), interviewed Nobel Laureate Eric Kandel, considered the recent five-year report and review of the Brain Research Institute (BRI) (Strategic Plan, Appendix F), and evaluated the organizational structure and fundraising campaigns of outside, competing universities (Strategic Plan, Appendix C).

Early on in the deliberations of the task force, it was recognized that clinical neuroscience departments (i.e., Neurosurgery, Psychiatry, Neurology and Psychology) have a number of unique features that were outside of the primary scope of the task force assignment. Specifically, these features included patient care and the education of clinical trainees. As such, the task force focused its attention and provides this report on research activities including basic, translational and clinical research and the education of basic neuroscientists but not the evaluation or assessment of patient care and clinical education.

III. Current State of UCLA Neuroscience: Neuroscience at UCLA is widely distributed and includes representation in three schools and thirteen departments as well as three organized research units (ORUs), with coordinating activities provided by the Brain Research Institute (BRI) and, for the past 5 years, the Neuroscience Academy Planning Committee, established by Vice Chancellor Levey and Chaired by Peter Whybrow. The BRI has provided excellent leadership in providing resources and coordinating research, education and communication as well as outreach activities. The affinity groups, endowed chairs, symposia, workshops, retreats and cores of the BRI have been helpful to neuroscientists on campus and the space that the BRI oversees in the Gonda Building has outstanding and interactive faculty with primary affiliation in multiple departments. Current strong leadership, provided by Chris Evans, Ph.D., has been a major factor in recent BRI successes.

A. Environmental Assessment: A complete accounting of the environmental assessment of the current state of UCLA neuroscience can be found in Appendix D of the strategic plan. Data in this document provide information on extramural funding, numbers of trainees by category, faculty number by head count, rank, gender and age, training grants, donor funds, cores, major equipment and recent faculty recruitments. A review of these data demonstrates the impressive size and scope of neuroscience activities on campus. It also demonstrates the substantial capacity of UCLA neuroscience to attract extramural funding from federal, state and private organizations as well as philanthropic support for its activities.

1. Faculty: In FY 07-08, UCLA neuroscience-related departments and institutes had 582 faculty members (70% engaged in research). That number increased from 509 in FY 05-06 for a compound annual growth rate of 6.9% in these two years. Faculty in the Semel Institute and the Department of Psychiatry and Biobehavioral Sciences account for approximately half of the total head count. Psychology, Neurobiology and Physiological Science have the highest proportions of senior faculty with 61-83% full professors. In other departments, the proportion of full professors ranges from 34% to 50%. Most departments reported that more than three-quarters of their faculty are actively engaged in research. Psychiatry and Biobehavioral Sciences as well as Neurosurgery have a somewhat lower percentage due to the size of their clinical practices.

2. Extramural Funds: The departments' collective estimate of neuroscience funding totaled $198 million in FY 07-08. This represents a compound annual growth rate of 8.1% over FY 05-06, which is commensurate with the growth in faculty head count. UCLA neuroscience generates an average of $340,000 per faculty member. The Departments of Neurology, Neurobiology, and Psychiatry and Biobehavioral Sciences

have average awards of between $658,000-$678,000 per active research faculty member making them among the campus leaders.

3. Students and Trainees: UCLA has 138 students in neuroscience graduate programs (not including clinical neuroscience residents and fellows) and almost 3,000 undergraduates in neuroscience-related majors or minors:

   - Graduate Students: BRI - neuroscience graduate IDP (88); neurobiology (16); psychology – behavioral neuroscience (22), learning & behavior (6), cognitive neuroscience (6).
   - Neuroscience-related undergraduates: neuroscience majors (495), neuroscience minors (28), psychology majors (1,495) and psychobiology majors (881).
   - More than 170 other graduate students from across campus work in neuroscience laboratories (in addition to the138 students enrolled in neuroscience graduate programs).

   Nearly 400 post-doctoral fellows and clinical fellows are also working in neuroscience at UCLA.

   In 2009, 25% of highly rated graduate candidates accepted offers to UCLA's IDP Program. A recent survey conducted by the Brain Research Institute of current IDP students found that the faculty and the breadth of research were the major factors in their decision to come to UCLA. According to internal data, UCLA has 19 neuroscience training grants supporting 84 pre- and post-doctoral trainees. In addition, other neuroscientist trainees may be on training grants not specified as “neuroscience” (e.g., immunology, chemistry, computer science).

4. Resources: Between 2004-2008, UCLA garnered an average of $36 million per year in gifts and pledges to neuroscience-related departments. The largest share of gifts and pledges were made to Psychiatry and Biobehavioral Sciences, Neurology and the Semel Institute. Forty-three percent of the 541,926 net square feet of space devoted to neuroscience departments is designated as research space. Psychology space represents 31% of the total research space. On average, UCLA core neuroscience departments in the David Geffen School of Medicine (i.e., Psychiatry, Neurology, Neurosurgery & Neurobiology) generate approximately $1,754 in research funding per square foot of research space and $666 per square foot of total space.

B. Internal Opinions: Confidential interviews were conducted with 32 individuals invited by the Neuroscience Task Force. These individuals represented both junior and senior research faculty, individuals performing both basic science and clinical research, leadership of neuroscience and

campus units as well as trainees and selected donors. Key findings include the following *(percentages reflect the proportion of interviewees who identified the issue):*

1. Strengths

    a. UCLA has a deeply embedded culture of collaboration, collegiality and interdisciplinary research. (72%)

    b. The following programmatic strengths were noted: imaging, learning and memory, clinical populations/biostatistics, genetics, addiction biology and neurodegeneration. (44%)

    c. UCLA has tremendous breadth and depth in neuroscience research, from basic science to patient populations. (44%)

    d. The large number of neuroscientists at UCLA is advantageous. (40%)

    e. UCLA has some very distinguished faculty with national and international reputations. (36%)

2. Weaknesses

    a. The size of the UCLA neuroscience community is unwieldy. (44%)

    b. UCLA neuroscience research lacks strong, unified leadership that is easily identified. (40%)

    c. A significant number of neuroscience faculty are not at the top of their fields. (36%)

    d. Despite a very collaborative faculty, UCLA is not ideally organized to exploit emerging opportunities. (32%)

    e. UCLA lacks clearly visible programs of excellence. (32%)

3. Short Term Steps to Achieve Excellence

    a. Develop mechanisms to further facilitate and encourage interdisciplinary collaboration. (36%)

    b. Key faculty recruitment is critical and encouraged but there is no consensus on the best strategy, mechanism and level of seniority for such recruits. (32%)

    c. Establish an organizational approach for campus-wide neuroscience that results in more cohesive relationships across the discipline and across the campus. (32%)

    d. Identify new, tangible resources at a campus level that will be dedicated to building neuroscience. (32%)

e. Develop thematic research focal points into campus-wide institutes or centers. (32%)

4. Recommendations to Promote Coordination and Collaboration in Neuroscience across School and Disciplinary Boundaries

   a. Reward collaborations. (40%)

   b. Foster affinity groups and collaborations, especially those with associated training programs pursuing cross-disciplinary science. (40%)

   c. Develop a collaborative leadership approach. (20%)

   d. Create a new overarching organizational structure to promote excellence. (20%)

   e. Develop centers and/or institutes with vibrant unifying themes. (16%)

5. Top Strategic Priorities - as recommended by the interviewees *(percent represents the proportion of interviewees identifying the issue when asked to identify three strategic priorities)*

   a. Create a shared organizational/governance structure for UCLA neuroscience. (54%)

   b. Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence to the community, foundations, donors, government and funding agencies. (42%)

   c. Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists. (39%)

   d. Establish mechanisms that would foster strong research collaborations across departments and schools. (39%)

   e. Recruit, retain and promote excellent neuroscience faculty. (31%)

   f. Implement measurable, high standards of excellence for all UCLA neuroscientists. (27%)

   g. Identify thematic areas for development that can drive neuroscience excellence. (23%)

   h. Strengthen neuroscience education and training programs. (19%)

   i. Foster basic and translational research; ensure continued commitment to the basic sciences. (19%)

   j. Address animal rights extremism and proactively protect faculty. (12%)

6. Interviews were also conducted with three major donors to neuroscience at UCLA. Relevant, unsolicited comments included:

   a. "For neuroscience, we need to foster a central idea across UCLA."

   b. "It would be great to see this under a single university-wide neuroscience program."

   c. "Need leadership that is not egocentric, so everyone is encouraged to work together."

7. Web-based Survey of Stakeholders: Eighty percent of the 328 survey participants were from the School of Medicine followed by 13% from the College of Letters and Sciences. Psychiatry, Neurology and Neurobiology comprised 63% of the total number of respondents. Seventy-five percent of the respondents described the reputation of UCLA neuroscience as being in the "Top 10" nationally, followed by 25% who ranked UCLA in the "Top 20." When probed about the five-year national reputation trajectory, 70% of the interviewees thought UCLA neuroscience would have "some" or "great" improvement.

   When asked to rank order the strategic priorities identified in the interviews, the top three strategic priorities identified by the survey participants were prioritized differently from the ranking provided by the interviewees:

   a. Recruitment, retention and promotion of excellent neuroscience faculty.

   b. Develop dedicated, state-of-the-art core facilities and space resources that are accessible by all UCLA neuroscientists.

   c. Foster basic and translational research; ensure continued commitment to the basic sciences.

C. External Opinions: The leadership for basic neuroscience research at the following institutions was interviewed: Columbia, Harvard, Johns Hopkins, University of Pennsylvania, Stanford, UCSD, UCSF and Washington University. The results of these interviews can be found in the strategic plan (Appendix C).

All of the benchmark institutions have coordinating neuroscience institutes/centers that are centralized within the university. The University of Pennsylvania and Stanford also have institutes/centers that are centralized within the School of Medicine. The primary functions of the university-wide organized neuroscience units are listed below:

1. Brings together basic and clinical neuroscientists with physical scientists and engineers to collaborate across interdisciplinary boundaries and unify neuroscience on their respective campuses.

2. Facilitates teaching in neuroscience across the campus; giving students access to a broad range of research and encouraging interdisciplinary interactions among faculty and students.

3. Awards grants for interdisciplinary research to faculty.

4. Integrates interdisciplinary research and knowledge.

5. Spearheads and coordinates the collection and dedication of resources, including NIH support and philanthropic funds.

6. Defines new spaces to house promising research and educational programs.

7. Establishes new interdisciplinary centers.

8. Develops, implements and coordinates new neuroscience-related initiatives.

When asked about UCLA's neuroscience strengths, external benchmark interviewees responded:

1. UCLA has some outstanding individual faculty members. Recent recruitment of junior faculty has been very good.

2. Comprehensive program with great breadth and depth.

3. Having Gene Block, a neuroscientist, as Chancellor.

4. Neuroimaging is a very strong component of the UCLA landscape.

5. The legacy of the Brain Research Institute.

External benchmark interviewees mentioned the following perceptions when asked about weaknesses of UCLA basic neuroscience research (comments in quotes are from single individuals):

1. UCLA is not a recognized entity; it should be in the top tier.

2. "As a neuroscience community, UCLA is not thought of as Top 10."

3. "UCLA is not integrated; it lacks coherent collaborative programs."

4. While there are several elite neuroscientists, they are diluted by large numbers of mediocre neuroscientists.

5. “UCLA has no apparent leader to drive integration.”

6. "UCLA is not even on our radar in terms of graduate student recruitment. I do not believe we have ever lost a student to UCLA."

D. Interpretation and Discussion of Internal and External Opinions: The results of both internal and external benchmark interviews indicated that there are clearly outstanding neuroscientists at UCLA and their number had increased in the last decade but, as a campus-wide discipline, there was not uniform excellence, a focused theme or coordinated effort for UCLA neuroscience that is easily identifiable outside the university. The Blue Ribbon Panel report determined that the consistency of excellence in neuroscience at UCLA should be better. Both internal and external interviewees identified significant strengths for UCLA including the size and scope of the faculty, the strength and reputation of the Neurology and Psychiatry departments, imaging and genetics, access to the human brain directly via Neurosurgery and clinical research involving well characterized patient populations. Another strength of UCLA neuroscience, given its large size, is that the nervous system can be and is studied in many species including: *drosophila*, zebrafish, mice, rats, non-human primates and humans.

It is also clear that in the last ten years, UCLA neuroscience faculty recruits have been excellent. Those who are now junior faculty have successfully competed for NIH funding and for prestigious non-NIH awards (e.g., Sloan, Klingenstein, Hillblom, McKnight and Howard Hughes Foundation awards). Those at mid-career levels have, in many cases, excelled and significantly enhanced the reputation of neuroscience on campus and beyond. These faculty have published in high impact journals and are recognized nationally and internationally. A number of senior faculty have been elected to the Institute of Medicine and the National Academy of Sciences.

Nevertheless, there needs to be a uniform level of excellence, scholarship and productivity for UCLA neuroscience. Such a communal sense of excellence can and should be built around existing strong programs. Mechanisms need to be put in place to make the standards for scholarship and scientific achievement uniform for UCLA research neuroscientists in all units, both basic and clinical.

It is not unusual or unexpected that the internal evaluations of UCLA neuroscience provide a more glowing estimate of its national ranking and quality than do the external assessments. Both sides of these opinions are typically biased but there are a number of common themes that are reflected

by both groups. Most important, however, is the lack of a coordinated approach to a governance structure and to nationally visible leadership for UCLA neuroscience. Such a structure and visible national advocacy would reduce compartmentalization of resources and establish more coherent integration of basic and translational research opportunities and help garner the resources to engage in them. The comments of external interviewees about the graduate neuroscience training programs at UCLA caused the task force to critically evaluate the admissions process which is described completely in the strategic plan, particularly in Goal 3 related to neuroscience education.

E. Current Obstacles to Further Success: The internal interviews and survey of neuroscience faculty and trainees identified a significant number of constraints that limit the quality and growth of neuroscience on campus. These included the compartmentalization of neuroscience, with resources connected directly to departments or ORUs and not devoted to common purposes. The allocation of space, again governed through departments and ORUs, does not lead to the maximal opportunities for community-wide access to space and optimal utilization. Little to no data are available on space utilization. Reallocation of space, either within or beyond the neuroscience disciplines, would require such information. Considerable obstacles were identified with regard to research administration including, but not limited to, problems associated with the Institutional Review Board (IRB), Animal Review Committee, Contract and Grant Administration and the Office of Intellectual Properties. It is likely that the problems and obstacles associated with these campus-wide services and activities affect many units beyond those associated with neuroscience research. The task force also identified limitations with regard to the vivaria, particularly, limited space and policy issues. Information technology was also cited as a moderate impediment to progress. Translational research requires the integration of clinical and basic science databases which currently does not exist nor does an electronic medical record that would allow anonymous searches of clinical data relevant to basic science questions. There is also the lack of a coherent approach to the establishment, utilization and support of infrastructure cores. Lastly, limitations were noted with regard to fundraising, particularly as it affects basic science research. Development efforts were compartmentalized, again according to the departmental and ORU structure, and often planning was driven by key gifts from donors rather than from a strategic plan that provided the direction and motivation to raise philanthropic funds.

IV. Vision and Goals: The task force identified the overall vision for UCLA neuroscience and three supporting goals for the strategic plan:

Vision: To be pioneers in understanding the nervous system and preventing, treating and curing the disorders that affect it.

Goals:

A. Create an integrated organizational structure to harness the resources needed to position UCLA neuroscience to achieve its vision.

B. Position UCLA neuroscience to increase fundraising and align fundraising efforts with the vision for UCLA neuroscience.

C. Develop, nurture and retain top neuroscientists to foster excellence in basic and clinical neuroscience and as a key to improving educational and training programs.

V. Strategies in Support of the Vision and Goals

A. Create an integrated organizational structure to harness the resources needed to position UCLA neuroscience to achieve its vision.

1. **Proposed Organizational Structure**: A structure is provided in the strategic plan (pages 11 through 15; refer to **Figures 1** and **2** on page 15 of this report) which would integrate the authority, resources and leadership to oversee the complex and diffuse structure of the neuroscience community on campus and to provide visible national leadership and advocacy. Fifty-four percent of the internal interviewees identified the need for a shared organizational structure and governance as a critical future direction for success in this discipline. It was recommended that a single collaborative body provide oversight and strategic decision making that would reduce compartmentalization and foster research among schools and units on campus. The goal of this new structure, in addition to its integrating and unifying intent, would be to oversee the visibility and reputation of UCLA neuroscience, recruitment and retention activities for faculty, utilization of space, and organization of cores and equipment, oversight of submission of select types of grants and the need to recognize and reward excellence by neuroscience faculty. The committee is optimistic that traditional resources that currently exist in the UCLA neuroscience community can be organized to work together more effectively while preserving established administrative units. The structure also provides a central, campus-wide organization where all key issues related to neuroscience can be assessed and discussed.

   The committee considered approaches where resources would be pooled in a "revolutionary" restructuring of neuroscience but felt that this strategy could quickly result in polarization of the community and an

extended period of discord. Rather, the committee selected the approach of “directed evolution” with a federated structure to unify the vision of UCLA neuroscience and serve as a focal point to champion new themes and the acquisition of additional resources (e.g., donor funds, space and FTEs). The committee envisions a three step process. First, establish the leadership and governance structure. Second, acquire new resources (funding and space). Third, recruit new faculty to existing strong programs and for emerging opportunities. This model has been used successfully by competing programs at major institutions nationally and by the UCLA Jonsson Cancer Center. In most cases, the outside institutions federated their existing units to provide coordinated linkage and oversight and to serve as a vehicle for future fundraising. It should be noted, however, that most of these initiatives were launched by a significant philanthropic gift that provided new space and resources concomitant with the change in governance and organization. For example, Columbia University received a $250 million gift and is developing a separate neuroscience campus of 300,000 square feet. At UCSF, donor funds and indirect cost recovery have supported the development of a second campus which has a significant neuroscience presence, including a newly proposed 300,000 square foot neuroscience building. The committee took note of the successes achieved by these other institutions and adopted the federated model with a unifying organizational unit which it named the "UCLA Consortium for Neuroscience" (UCfN). It should be noted that with this new structure, the intent was not to have top down initiation of scientific ideas but rather to foster ideas developed by the faculty and facilitate the delivery of resources and opportunities for collaboration through an integrated structure that spanned existing units, departments and schools.

The exact structure and composition of UCfN is well described in the strategic plan including its consortium board and strategic planning and direction group. The rationale for the key aspects of this organization are provided here:

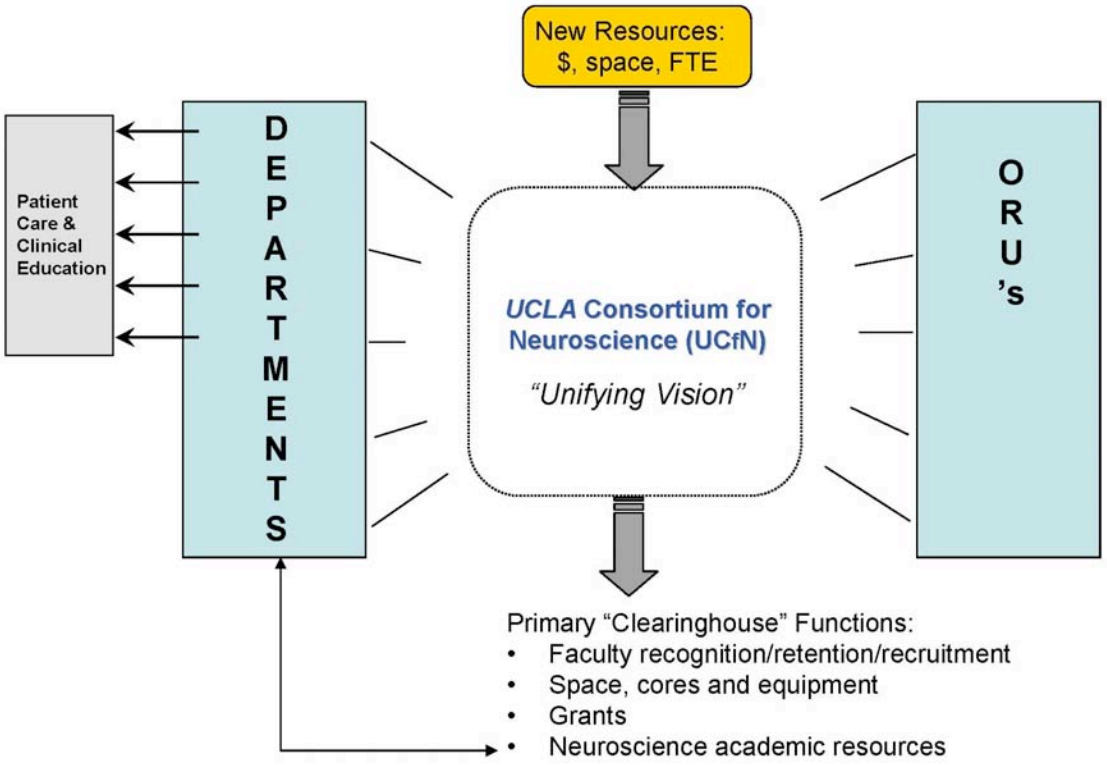

Figure 1: Consortium: Organizational Relationships

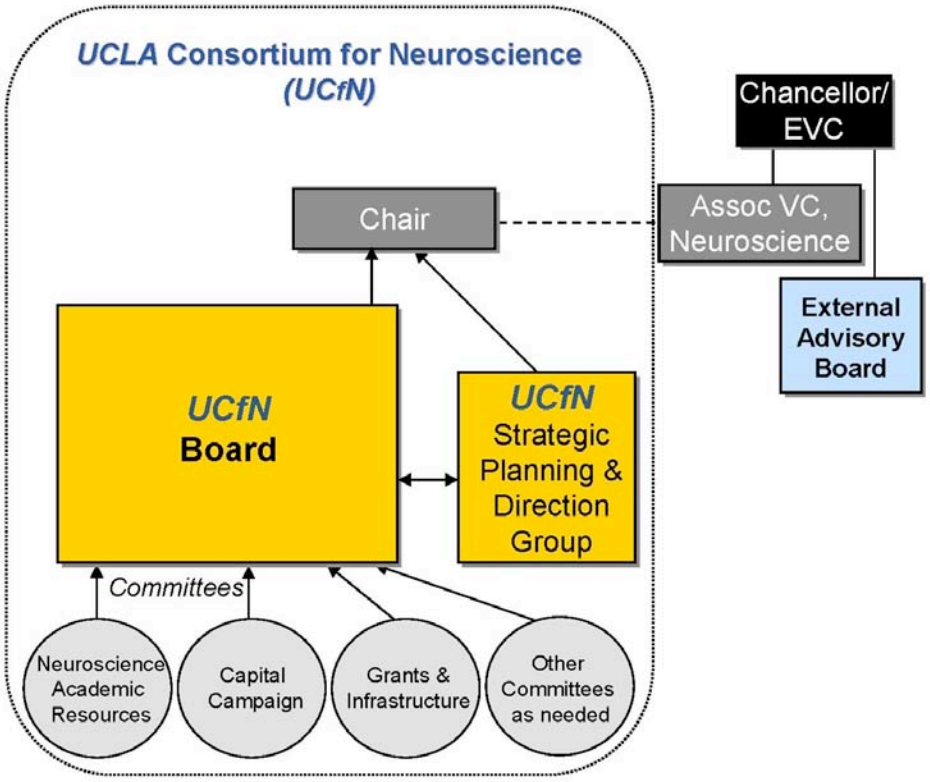

Figure 2: Consortium: Organizational Structure

2. **Neuroscience Consortium Chair/Associate Vice Chancellor for Neuroscience:** This individual will be the "face" of UCLA neuroscience. Appointed by the Chancellor to a five-year renewable term, this individual should be a nationally and internationally recognized neuroscientist who can relate to both basic and clinical research topics, is politically adept at building consensus, a strong advocate for neuroscience on and off campus, and can facilitate neuroscience fund raising. Because neuroscience represents the largest faculty and trainee constituency for a single discipline on campus, it is recommended that this person be an Associate Vice Chancellor for Neuroscience. The title appropriately positions this individual to be at the table where campus-wide decisions are made. This individual chairs the UCfN Board and the Strategic Planning and Direction Group. It is recommended that, initially, this person be appointed internally but subsequent appointments could be either internal or external. In all cases a thorough search should be conducted to ensure that the optimal person is selected and that the UCLA neuroscience community participates in the process. If the identified individual is a neuroscience department chair or ORU director, he/she would relinquish that role before assuming this one.

3. **UCfN Board:** The Board is composed of the existing UCLA neuroscience leadership (Department Chairs and ORU Directors), research representatives of the David Geffen School of Medicine and the College of Letters and Science, The Vice Chancellor for Research Administration, the three thematic development leaders (discussed below), two accomplished mid-career neuroscientists and one accomplished junior faculty neuroscientists plus a nationally recognized UCLA scientist from another discipline. As the Board further develops its roles, it may be useful to add representatives from the School of Engineering and the California Nano Systems Institute, among others on a permanent or occasional basis. The staggered terms for the non-department chairs and ORU directors is three years and they are selected by vote of neuroscience department chairs and ORU directors. Of the seven elected members, at least three should be from the College of Letters and Sciences. The Board is responsible for all strategic neuroscience decisions and for the coordination and integration of neuroscience research, education and fund raising across the campus. The Board is chaired by the Neuroscience Consortium Chair/Associate Vice Chancellor for Neuroscience. The Board is advisory to the Chancellor and the Deans of the David Geffen School of Medicine and the College of Letters & Science. The Board is the body which discusses key opportunities and obstacles for the neuroscience community and allocates shared resources. It should be noted that while the Board can debate and provide opinions about all neuroscience related matters,

decisions that can be managed with resources solely within existing neuroscience units (e.g., departments) would not be directly affected.

4. **Neuroscience Strategic Planning & Direction Group (SP&DG):** This group is responsible for the strategic planning aspects of UCLA neuroscience. It assembles the Board agenda and does the background work for and implementation of Board decisions. It also oversees the execution of strategic planning activities initiated by the Board. It is chaired by the Consortium Chair/Associate Vice Chancellor for Neuroscience and co-chaired by the Director of the BRI. In addition to these Co-Chairs, the committee members include the three thematic development leaders and two prominent mid-career neuroscientists from the Board. At least two Strategic Planning & Direction Group members must be from the College of Letters & Science. With this composition, the Neuroscience Strategic Planning & Direction Group is a standing committee of the Board ensuring coordinated activities. Its membership represents a subset of the Board membership.

5. **External Advisory Board:** This panel of expert neuroscientists from outside institutions would meet biennially to review the state of UCLA neuroscience, the quality of its programs, faculty, trainees, cores, fund raising, outreach, educational programs and all other aspects of the strategic plan. The External Advisory Board would report to the UCLA Chancellor.

   UCfN would also have separate committees which would provide guidance and oversight for a capital campaign, a neuroscience academic resource committee as well as a committee that reviewed major equipment purchases, new and existing cores (reducing redundancy for cores with minimal impact and implementing user feedback) and grants with institutional restrictions (e.g., only one or a limited number of submissions per institution).

   UCfN would have six primary functions as described below.

   a. **Enhance recognition, retention and recruitment of outstanding neuroscience faculty:** While it was felt that the perception of greatness on a national level was often the result of institutional branding, alumni opinion, funding and faculty size; true metrics of greatness would be a track record of new discoveries, treatments, and cures, as well as faculty awards and recognitions (e.g., memberships in the National Academy of Sciences, Institute of Medicine and Nobel Laureates). Another important measure of greatness is the quality of trainees attracted to the institution and the fate of those trainees in their future careers. As such, the task force recommended that there be a systematic method developed to

identify UCLA neuroscience faculty who are excelling in their field and nominate them for major scientific awards and society memberships. They would also utilize the consortium board to modify the recruitment and retention process to attract and retain the highest caliber scientists to UCLA (refer to details in Primary Function 2 below). The task force felt it was essential to recognize and foster uniform and communal excellence in neuroscience faculty. This will require a central strategy implemented with measurable high standards for excellence. The committee also recognized the need to allow failure. As such, central resource allocation would be based on scientific productivity, performance and promise. Failure must be an option, without it mediocrity is perpetuated. Lastly, UCfN would create a funding mechanism whereby philanthropic funds provided to UCLA neuroscience would be available for competitive grants to the faculty as well as their use for recruitments and retentions.

b. **Ensure recognition of excellence for promotion and tenure for UCLA neuroscience**: It is recommended that there be established a Neuroscience Academic Resource Committee and that this group be available to offer objective evaluation of neuroscience research faculty at the time of initial appointment, promotion, FTE assignment and tenure. This group (Academic Resource Committee) would encourage faculty to give pre-tenure lectures to the broader neuroscience community, evaluate neuroscientists with respect to university guidelines and would encourage the use of space and merit increases as incentives for top performance. Evaluations by the Neuroscience Academic Resource Committee would be advisory to departmental appointment and promotions committees and chairs. The purpose of the Neuroscience Academic Resource Committee is to:

    i. Be a resource to department chairs as a pool of knowledgeable UCLA neuroscientists who could be recommended to CAP for promotion committees for neuroscience faculty.

    ii. Assist in equilibrating scientific quality and uniform excellence among basic and clinical neuroscience departments.

    iii. Provide an additional and optional external opinion to departmental appointments and promotion committees.

    iv. Provide a mandatory review of new recruitments or retentions of neuroscience faculty who will be members of the IDP.

    v. Systematically identify, on a regular basis, prominent UCLA neuroscience faculty for nomination for national and international awards and membership in prestigious

organizations (e.g., Institute of Medicine, National Academy of Sciences, etc).

c. **Secure appropriate space to foster collaboration and outstanding research**: The committee strongly advised that space be treated as an appropriately valued asset utilized in the most productive manner. This would include having the Chancellor's Office and the Deans of participating schools be made aware of the relative productivity of space allocated to neuroscience compared to departments and ORUs in other fields. The task force also recommended a monitoring plan with associated resources to provide "incubator" space for junior clinical faculty transitioning to independence as well as trainees and post-doctoral fellows, as pioneered in the Gonda Building by the BRI. There should be dedicated space for interdisciplinary research collaboration and consideration given to the development of new space either on or off campus (as a joint commercial venture) for neuroscience.

d. **Ensure the provision of superior cores and infrastructure to support UCLA neuroscientists**: It is recommended that these cores be reviewed annually to determine their continued relevance to neuroscience. A structure should be put in place to evaluate major equipment purchases and new cores and to eliminate redundancy and internal competition. A systematic approach to identifying core resource requirements and vivarium space needs should be put in place with regard to new recruitments. This role would be the responsibility of the Grants and Infrastructure Committee of UCfN with oversight by the Board.

e. **Facilitate optimal coordination for grants and other proposals** that would have neuroscience community-wide impact such as T32 training grants, high-end equipment grants, construction/renovation grants, any proposals with institutional restrictions (e.g., only one or a limited number of submissions per institution), and proposals requiring cost sharing. These duties would also be executed by the Grants and Infrastructure Committee of UCfN with oversight by the Board.

f. **Integrate UCLA neuroscientists across all schools and departments**: It is recommended that this step be accomplished by creating a comprehensive integrated neuroscience website that links individual departments, ORUs, programs and institutes. This task is currently being managed by the Brain Research Institute. The BRI should be provided with the additional resources to develop and manage all aspects of the enhanced website.

6. **BRI Roles and Responsibilities**: It is recommended that the BRI continue to serve as the research coordination, educational and communication unit of the UCLA neuroscience community and to continue to foster the development of emerging new affinity groups and related activities. The BRI would manage and maintain the centers which have evolved from the affinity groups. The BRI would also provide communication across the UCLA neuroscience community with an enhanced charge and sufficient resources to support these roles as well as manage the existing BRI cores, affinity groups, space in the Gonda, seminars/workshops and the BRI endowed chairs for research.

   The development of a web portal for UCLA neuroscience would be a critical integrating step for the community on campus. It would also serve as a way of attracting new faculty and trainees. The BRI should expand and enhance the current website to take full advantage of the scope and talent of neuroscience on campus. The web portal established by Columbia University is excellent in this regard and serves as a good model. The BRI's role in educational and community activities was recognized by the task force which felt that these activities should continue including the joint seminars of neuroscience, the neuroscience affinity groups, symposia, conferences and workshops as well as poster sessions, newsletters and historical archives. The outreach activities of the BRI are also appropriately situated in that unit and include the high school research placement program, the Summer Undergraduate Research Program (SURP), as well as the K-12 programs (e.g., Project Brainstorm).

7. **Faculty Recruitment & Retention:** The Blue Ribbon Panel led by David Baltimore recommended that we recruit well established national stars to increase the reputation of UCLA neuroscience, nationally and internationally. The committee considered this “star program” recommendation but also evaluated the resource commitments required to relocate such individuals. Such resources would not only include substantial financial reserves but also FTEs, significant space allocations, cores, vivarium space and other related resources. Given the current financial situation of the UC system and the limited space resources available, it is recommended that UCLA neuroscience grow its own stars, rewarding faculty who excel with additional resources and leadership roles prior to their being attracted away to other institutions (see below). It is with this in mind that the committee recommended putting such individuals on the UCfN Board, providing them with leadership roles and a voice in the future direction of the neuroscience community on campus.

   As significant philanthropic funds are acquired and new space realized, either through attrition of existing faculty or acquisition of new space,

recruitment of proven, talented, mid career neuroscience faculty should be actively pursued. Ideally, such individuals or groups would provide new leadership for existing strong research programs or emerging opportunities through collaborative, community based initiatives.

B. Position UCLA neuroscience to increase fundraising and align fundraising efforts with the overall vision for UCLA neuroscience.

The committee reviewed past neuroscience fundraising activities and noted that in the 10-year period from 1999-2009 UCLA neuroscience raised approximately $325 million in donor funds. These funds were mainly linked to the clinical departments. Neurology, the Semel Institute and Psychiatry raised $285 million, Psychology and Neurosurgery $30 million and Neurobiology and the BRI $10 million. The committee strongly recommended the development of an active fundraising campaign for UCLA neuroscience with dedicated development staff and an effort to improve local and regional public awareness and understanding of neuroscience. To this end, it is recommended that three themes be identified as unifying approaches to the fundraising strategy. Each theme would have a thematic development leader, knowledgeable in the theme's content and with proven abilities in raising philanthropic funds. The thematic development leaders would be elected by the neuroscience department chairs and ORU directors. In order to increase the pool of neuroscience leadership and to avoid conflicts of commitment, the thematic development leaders would not be current department chairs or ORU directors. The themes include:

1. **Learning and Memory**: Memory disorders (e.g., Alzheimer's disease), developmental (normal) and disorders (abnormal) that affect learning (e.g., ADHD) and post-traumatic learning and memory disorders.

2. **Building and Repairing the Nervous System – Development through Aging**: Stroke, neurodegenerative disorders (e.g., Alzheimer's, Parkinson's and Huntington's diseases, ALS), trauma, spinal cord injury, stem cell research and cancer.

3. **Brain and Behavior**: Psychiatric disorders, addiction, normal behavior, optimizing cognition and creativity.

These neuroscience themes were selected with the following criteria:

1. They provide neuroscience community-wide impact and are highly inclusive.

2. They involve basic, translational and clinical research elements.

3. They are conceptual rather than methodological.

4. They address both pathologic and normal states.

5. They are not specific to a single department or ORU.

6. They are non-traditional.

UCLA's strengths in enabling technologies should also be stressed as they were mentioned by both internal and external interviewees. These technologies include: neurogenetics, imaging and the California Nano Systems Institute.

The task force felt it was critical that there be a campaign for UCLA neuroscience (e.g., "Campaign for the Brain"). As was discussed above, other, competing, institutions utilize significant philanthropic resources to integrate and centralize neuroscience activities to their benefit. Their estimate of the return on investment of this strategy was overwhelmingly positive. Thus, as the strategic plan is implemented, new funds and resources will be required to evolve this structure into an implemented neuroscience program going forward. The committee was also concerned about the potential for other local competing institutions (e.g., USC, Cedars-Sinai Medical Center has plans for a $100 million neuroscience campaign) to launch such a campaign and capture the excitement and generosity of the affluent Los Angeles community should UCLA not act first.

The selection of these themes is also closely aligned with enabling technologies available on campus including: imaging, gene sequencing, mathematics, physics, computer science, engineering, chemistry, nanotechnologies and stem cell research. As both internal and external interviewees mentioned genetics and imaging as accomplished UCLA neuroscience enabling technologies, these two are specifically highlighted in the strategic plan along with the three themes.

C. Develop, nurture and retain top neuroscientists to foster excellence in basic and clinical neuroscience and as a key to improving educational and training programs.

The task force committed an entire strategic goal to improving neuroscience training and education programs. Specifically, the committee recommends:

1. Re-evaluate the admissions process and increase the caliber of graduate students who are accepted to UCLA.

2. Provide undergraduates and graduate students with rigorous training and education.

3. Provide training opportunities and support for outstanding post-doctoral fellows.

4. Enhance training of scientists and clinicians in the community through CME and other educational fora.

5. Increase neuroscience education for patients and of the general public within the greater Los Angeles community.

The mechanisms to implement these recommendations will be established by a committee appointed by the UCfN Board working with the appropriate leaders of the training programs and the BRI.

The process of selection of student mentors and the oversight of the mentoring process for graduate students was critically evaluated by the Task Force. We recommend that mentors be continually evaluated by their trainees and that these critiques be used to identify the best mentors available. A steering committee should be established to match students with these identified scientist-educators to enhance neuroscience graduate education on campus.

The committee recommended the BRI as the ongoing central force in these educational activities and provided the specific tactics to achieve each of these strategic goals. There are a wide range of educational activities associated with UCLA neuroscience including the graduate programs (IDP, ACCESS, MSTP), post-doctoral fellowships, medical students, undergraduates, clinical neuroscience housestaff, outreach activities (K-12 and high school students), community education of physicians, the STAR Programs as well as public education of the lay population. It was noted that

the current UCLA community has significant support for trainees including T32 Training Grants (currently 52), NRSAs and K Awards.

VI. Next Steps: The task force recommended identifying areas for rapid implementation and community awareness of the plan. These opportunities included the following:

A. Announce the Chancellor's approval and provide the resources to launch the capital campaign.

B. Announce themes to the UCLA community and the public.

C. Support the launch of unified graduate training programs.

D. Implement educational tracks for graduate students.

E. Enhance core neuroscience support on campus.

F. Announce the UCLA Consortium for Neuroscience (UCfN) and its inclusiveness of the neuroscience community.

UCLA Neuroscience

Strategic Plan

October 2009

AMC Strategies

Contents

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I. Strategic Planning Overview

- Introduction
- The Chancellor's Charge to the NTSF
- The Strategic Planning Process

Introduction

Neuroscience will likely be to the 21st century what physics and molecular biology were to the 20th century. Neuroscience also serves a unique integrating function on a comprehensive university campus such as UCLA. Neuroscience is the natural link between the sciences and the humanities as it is the focal point for the understanding of human behavior, decision making, philosophy, education, economics, law, literature and the arts. UCLA has had a long and distinguished history in neuroscience and is poised, with the proper focus and strategic plan, to be a national and international leader in this discipline in the 21st century. Neuroscience is also the largest single discipline, in terms of faculty representation, of any on the UCLA campus. For these reasons, a comprehensive review of UCLA neuroscience and a plan for its future are both important and timely.

The Chancellor's Charge to the Task Force *(page 1 of 2)*

The UCLA Neuroscience Task Force (NSTF) was charged by the Chancellor with the following goal: to have a complete, campus-wide review of all aspects of neuroscience including faculty, facilities, training programs, resources and academic/ administrative organization and policies. Specifically, the Chancellor asked that the strategic plan include the following components:

Chancellor's Charges:	***Addressed in the Strategic Plan by the NSTF:***
1. Themes for growth, recruitment and fundraising.	This is the entire focus of Goal B (Position and Fund-raising); Strategy B.1 identifies the three major programmatic themes for development (refer to page 24).
2. Deficient areas in need of recruitment or augmentation.	This strategic plan creates an organizational structure for UCLA neuroscience that will provide a forum for collective strategic decision making. Charges 2 through 4 will be addressed via the functions assigned to the Consortium (refer to Goal A details, pages 9 – 21).
3. Areas of decline or redundancy that should be discontinued.	
4. Opportunities for consolidation of parallel or duplicative efforts.	
5. Strategies to raise the national and international awareness as well as public and financial support.	Refer to the strategies B.4 and C.5 that address national and international awareness; refer to Goal B for public and financial support.
6. Implementation steps to achieve these goals.	Detailed tactics to achieve each of the three goals are included throughout this strategic plan.

UCLA Neuroscience Strategic Plan

The Chancellor's Charge to the Task Force *(page 2 of 2)*

Questions to be Addressed:	***Found in the Strategic Plan:***
1. *Strengths and weaknesses of the neurosciences at UCLA? (Internal and external reviews)*	• Internal Interviews – Appendix A • External Benchmark Assessment – Appendix C
2. *What aspects of neuroscience should UCLA emphasize and invest in? What areas of neuroscience would be less likely to develop into nationally prominent programs for UCLA? In what areas of study can UCLA best develop, or extend, a distinctive presence and a competitive advantage?*	• See Strategy B.1 for programmatic themes. • See Goal A., the UCLA Consortium for Neuroscience (UCfN) that will oversee programmatic development as well as areas less likely to develop into national prominence.
3. *What programs should we support or create to achieve clinical and basic science alignments in some areas of neuroscience?*	• See Strategy B.1 for programmatic themes.
4. *To achieve excellence in the neurosciences, what short-term steps can we take, keeping in mind the budget constraints we face? What long-term strategies should we initiate or prepare for? How might these goals and strategies be framed for a capital campaign?*	• Refer to Next Steps for short-term initiatives • Refer to Strategic Plan for all long-term strategies. • Refer to Goal B for Capital Campaign details.
5. *What would we suggest from these plans regarding faculty and graduate student recruitment as well as clinical trainees?*	• Refer to Consortium Function 1 – Recognition, Recruitment, Retention of Faculty. • Refer to Strategy B.1 – programmatic themes (which will include faculty recruitment). • Refer to Goal C (Education) for specifics strategies.
6. *To what extend does UCLA's academic structure, organization, policies and procedures facilitate versus impede excellence in neuroscience? How can UCLA promote coordination and collaborations in neurosciences across school and disciplinary boundaries? What academic structure, organization, policies and procedures should be changed to achieve these goals?*	• The Strategic Planning Interviews (Appendix A) uncovered concerns about how the current structures. Policies and procedures impeded excellence in neuroscience at UCLA; • To address these concerns, the UCLA Consortium for Neuroscience, and its proposed functions, is being proposed (refer to Goal A. for details).

The Strategic Planning Process

The strategic plan was developed using the four-phased approach illustrated below. Findings from all Phase I (Planning Research) activities can be found in the Appendix. The results of Phases II through IV are presented throughout this report.

- Strategic Planning Interviews
- Stakeholder Survey
- Benchmark Assessment
- Environmental Assessment

- Identify Strategic Implications of Planning Research
- Develop Vision Statement
- Define Measureable Goals
- Identify Working Group Strategic Assignments

- Develop Strategies and detailed tactics
- Utilize working groups for initial strategy recommendations
- Ensure all support vision & goals and address the Neuroscience Task Force assignments

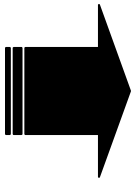
- Finalize Strategic Plan
- Develop approach for tracking and monitoring plan implementation Planning
- Present plan for approval

II. Vision, Goals and Strategic Direction

The Strategic Planning Framework…Vision and Goals

UCLA NEUROSCIENCE VISION:

To be pioneers in understanding the nervous system and preventing, treating and curing the disorders that affect it.



GOALS:

A. Create an integrated organizational structure to harness the resources needed to position UCLA neuroscience to achieve its vision.

B. Position UCLA neuroscience to increase fundraising and align fundraising efforts with the vision for UCLA neuroscience.

C. Develop, nurture and retain top neuroscientists to foster excellence in basic and clinical neuroscience and as a key to improving educational and training programs.

<u>Goal A</u>: Create an integrated organizational structure of interdisciplinary neuroscientists to harness the resources needed to position UCLA neuroscience to achieve its vision.

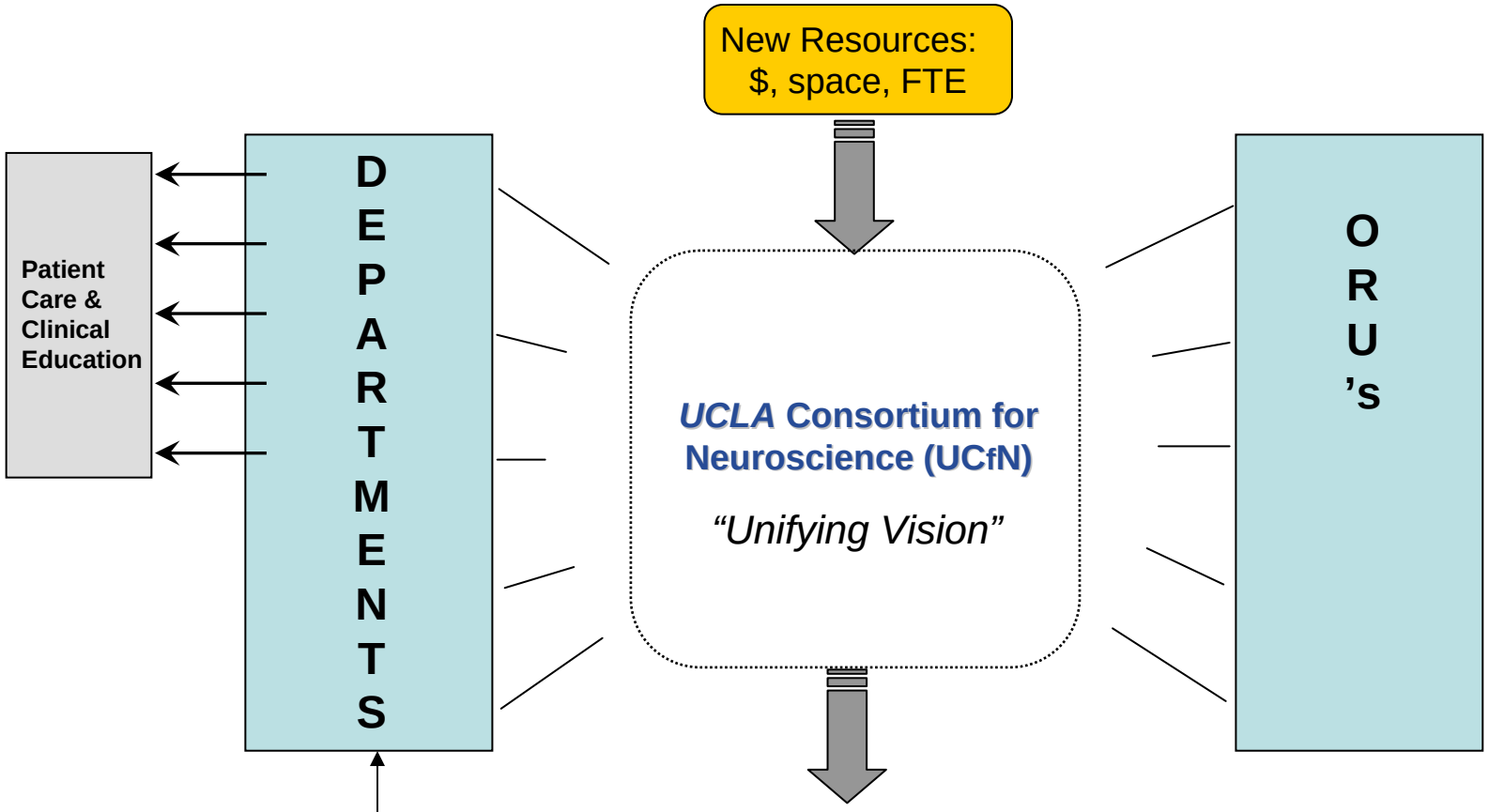
The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Consortium: Organizational Relationships



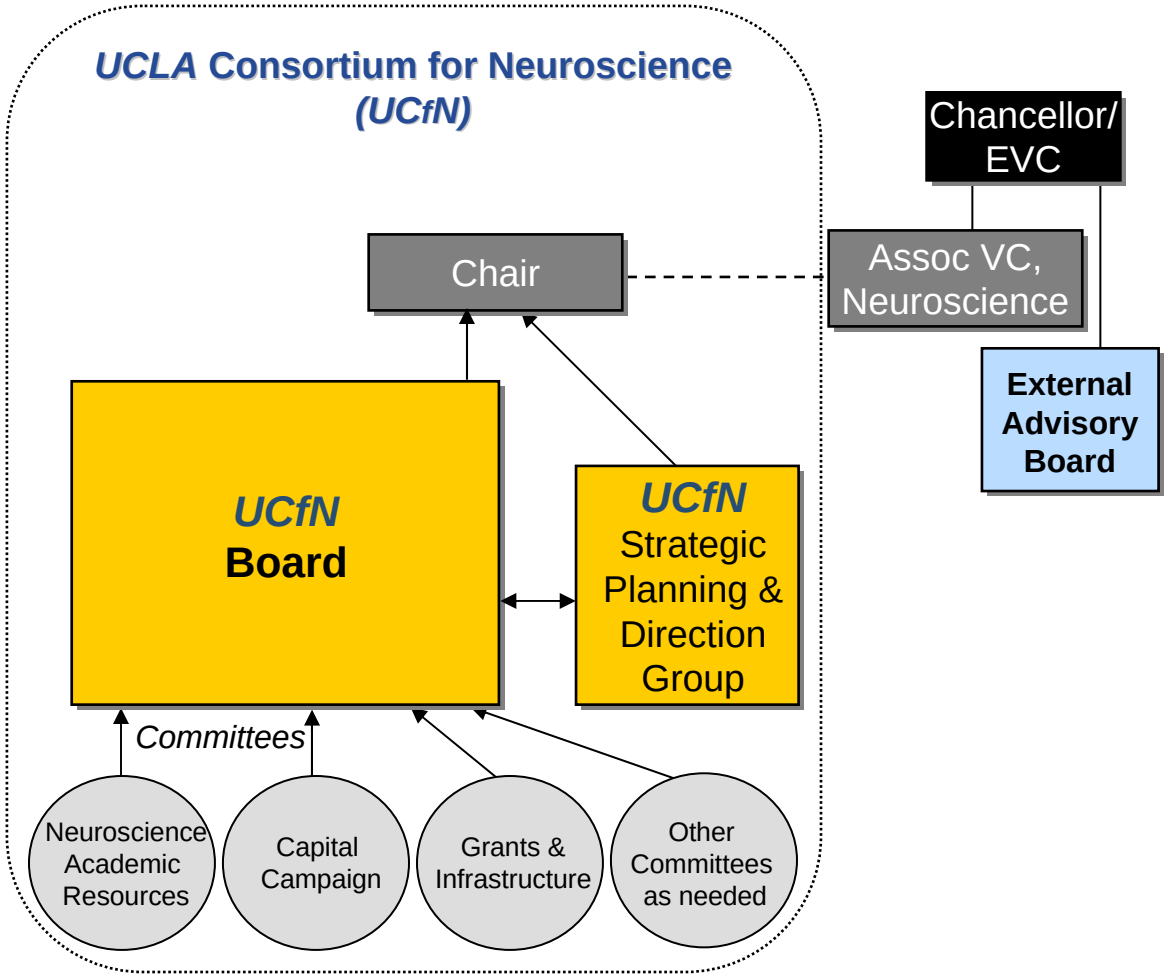
Primary "Clearinghouse" Functions:

- Faculty recognition/retention/recruitment
- Space, cores and equipment
- Grants
- Neuroscience academic resources

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Consortium: Organizational Structure

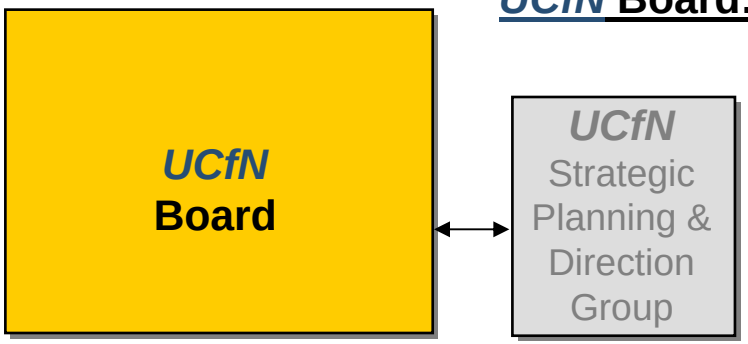


- UCfN would be comprised of two main groups: a Board and a Neuroscience Strategic Planning and Direction Group – and a number of supporting committees.
- The **Consortium Chair** would chair both the Board and the Strategic Planning & Directions Group for consistency. It is recommended that this position also have the campus-wide title of **"Associate Vice Chancellor for Neuroscience."**
- The **Consortium "Board"** would oversee all primary functions of the UCfN (refer to following slides for details).
- A smaller, more nimble **"Strategic Planning & Direction Group,"** all representatives of the Board, will assemble the agenda for the Board and oversee campus-wide neuroscience strategic planning.
- An **External Advisory Board** comprised of expert neuroscientists will meet biennially and serve in an advisory capacity to the UCfN Board.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

UCfN Board: Membership & Roles



Board Membership (n = 18)

1. Chair/AVC (1) – Reports to the Chancellor/EVC*
2. Vice Chancellor for Research Administration (1)
3. Existing UCLA neuroscience leadership: Department Chairs & ORU Directors (~8)**
4. Thematic Development Leaders (3)***
5. Mid-Career Scientists/Stars (2)***
6. Junior Faculty Scientist/Star (1)***
7. "Great" UCLA Scientist (non-neuroscience) (1)***

Terms:

* *Salaried position; appointed by and reports to the Chancellor; five-year term to be reviewed for renewal*

** *Permanent based on leadership position*

*** *Elected and rotational 3-year term*

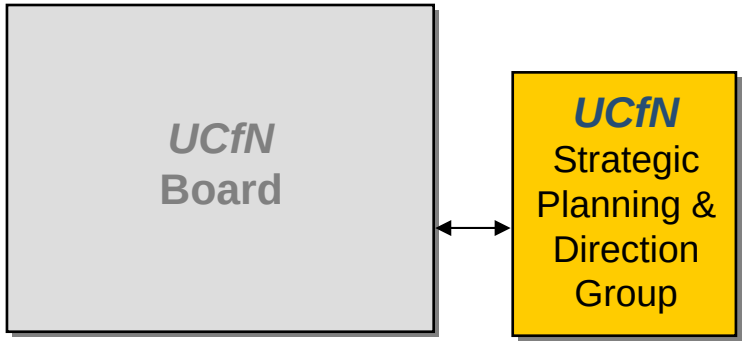
Board membership for Departments and ORUs include: Neurology, Neurosurgery, Neurobiology, Psychiatry/Semel, Psychology, Physiological Science, BRI, Intellectual & Developmental Disabilities Center and a representative from the Schools of Medicine, Engineering & the College

- The staggered terms for the non-department chairs and ORU directors is three years and they are selected by vote of neuroscience department chairs and ORU directors.
- The Board is responsible for all strategic neuroscience decisions and for the coordination and integration of neuroscience research, education and fund raising across the campus.
- The Board is chaired by the Neuroscience Consortium Chair/ Associate Vice Chancellor for Neuroscience.
- The Board is advisory to the Chancellor and the Dean's of the David Geffen School of Medicine and the College of Letters & Science.
- Of the 7 elected members, at least three should be from the College of Letters and Science.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

UCfN Strategic Planning & Directions Group: Membership & Roles



Strategic Planning & Direction Group Membership (n = 7)

1. Chair/AVC (1) – Reports to the Chancellor/EVC*
2. Co-Chair (1) – Director of the BRI**
3. Thematic Development Leaders (3)***
4. Mid-Career Scientists/Stars (2)***

Terms:

- *Each SP&DG position is elected by the Board for 3-year terms.*
- *Position terms will be staggered so that all positions do not rotate off the SP&DG at the same time.*

* *Salaried position; appointed by and reports to the Chancellor; five-year term to be reviewed for renewal*

** *Permanent based on leadership position*

*** *Elected and rotational 3-year term*

- The Neuroscience Strategic Planning & Direction Group (SP&DG) is responsible for the strategic planning aspects of UCLA neuroscience. It assembles the Board agenda and does the background work for Board decisions. It also oversees the execution of strategic planning activities initiated by the Board.
- It is Chaired by the Consortium Chair/Associate Vice Chancellor for Neuroscience and Co-Chaired by the Director of the BRI.
- At least two UCfN Strategic Planning & Direction Group members must be from the College of Letters & Science.
- With this composition, the Neuroscience Strategic Planning & Directions Group is a standing committee of the Board ensuring coordinated activities. Its membership represents a subset of the Board membership.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Board and Strategic Planning & Directions Group Charges

	***UCfN* Board**	***UCfN* Strategic Planning & Direction Group**
Primary Functions:	1. Faculty (non-clinical) Recognition/ Recruitment/Retention 2. Neuroscience Academic Resources 3. New Space 4. Cores and Equipment 5. Grants 6. Integration of UCLA Neuroscience *(Each function above is described in further detail on the following pages)*	1. Assembles the Board agenda and does background work for Board decisions 2. Oversees the execution of strategic planning activities initiated by the Board 3. Vets the issues that are brought forth to be addressed by the Board and determine those that require priority attention *(uses the Neuroscience Strategic Plan as a guide)*
Oversight:	• Neuroscience Thematic (Multidisciplinary) Program Development • Redundancy/Duplication Issues • The capital campaign for the UCfN	• Strategic Planning for UCLA neuroscience • Bi-directional communication: to/from the Board, and to/from the larger UCLA neuroscience community -- via the BRI
Authority/ Accountability:	• Board Chair reports to the Chancellor/EVC; position also has the campus-wide title of Associate Vice Chancellor for Neuroscience • All members have 1 vote on strategic issues requiring a majority vote • Consortium Board serves voluntarily; Board chair receives a salary	• Board Chair reports to the Chancellor/EVC; position also has the campus-wide title of Associate Vice Chancellor for Neuroscience • No voting privileges on the SP&DG, only as full Board members (elected subset of the Board) • Stipends should be provided for members
Meeting Frequency:	• Monthly	• Every two weeks

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Consortium Board: Primary Functions (Strategic Details)

***Primary Function 1*: Enhance recognition, retention and recruitment of outstanding neuroscience faculty.**

a. **Identify UCLA neuroscience faculty who are excelling in their field and nominate them for major scientific awards, society membership, etc. (e.g., Institute of Medicine, National Academies of Sciences, etc.).**

b. **Modify the recruitment/retention process to attract and retain high caliber scientists to UCLA.**

   i. Use the Consortium Board to facilitate recruitment efforts. (Refer to details described in Primary Function 2, on next page.)

   ii. Develop and apply criteria and an algorithm to evaluate recruitment requests.

      - Consider existing expertise that may already be available on campus.

   iii. Mobilize institutional resources to recruit key faculty.

   iv. Require national searches for all positions with limited exceptions for ladder track recruits.

c. **Invest in the leadership (internal or recruits) in existing areas of excellence.**

   i. Emphasize UCLA neuroscience “stars” and instill a sense of communal excellence.

   ii. Retain internal “stars” of strong programs and when resources allow, recruit top scientists.

d. **Allocate resources based on faculty performance, productivity and scientific promise; allow failure.**

e. **Create a funding mechanism from neuroscience philanthropic funds that provides competitive grants to faculty.**

   i. Utilize neuroscience umbrella organization to select awardees.

   ii. Organize awards ceremonies with donors in attendance.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Primary Function 2: **Ensure recognition of excellence for promotion and tenure for UCLA neuroscientists.**

a. Establish a Neuroscience Academic Resource Committee (NARC) and that this group be available to offer objective evaluation of neuroscience research faculty at the time of initial appointment, promotion, FTE assignment and tenure.

i. The purpose of the Neuroscience Academic Resource Committee is to:

- Be a resource to department chairs as a pool of knowledgeable UCLA neuroscientists who could be appointed to search committees and who could be recommended to CAP for promotion committees for neuroscience faculty;
- Assist in equilibrating scientific quality and uniform excellence among basic and clinical neuroscience departments;
- Provide an additional and optional external opinion to departmental appointments and promotion committees;
- Provide a mandatory review of new recruitments or retentions of neuroscience faculty who will be members of the IDP;
- Systematically identify, on a regular basis, prominent UCLA neuroscience faculty for nomination for national and international awards and membership in prestigious organizations (e.g., Institute of Medicine, National Academy of Sciences, etc.).

b. Encourage faculty to give pre-tenure lectures to the broader neuroscience community.

c. Evaluate neuroscientists with respect to University guidelines.

d. Use space and merit increases as incentives for top performance.

e. Serve as advisory to departmental appointment and promotions committees and chairs.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

***Primary Function 3*: Secure appropriate space to foster collaboration and outstanding research.**

a. Ensure that space is treated as an appropriately valued asset and utilized in the most productive manner.

i. Initiate an objective, merit-based and transparent process for review and allocation of neuroscience-related space on a biennial basis.

- Review the process every five years to modify as best fits the goals of the neuroscience community.

ii. Formulate a space optimization process that is driven by defined programmatic and quality considerations.

iii. Monitor and reclaim space from unproductive programs and reallocate it in a rational and equitable way.

iv. Evaluate construction and renovation plans to minimize redundancy.

b. Ensure that the Chancellor's office and the deans of participating schools are aware of the relative productivity of space allocated to neuroscience compared to departments and ORUs in other fields.

c. Formulate a monitored plan with associated resources to provide "incubator space" for junior clinical faculty transitioning to independence, as well as trainees and postdoctoral fellows.

i. Ensure that space is granted on a time-limited basis and that the incubator space does not become a de facto extension of space for the trainee's mentor.

d. Identify dedicated space for interdisciplinary research collaborations.

e. Consider development of new space either on or off (as a joint commercial venture) campus for neuroscience.

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

Primary Function 4: Ensure the provision of superior cores and infrastructure to support UCLA neuroscientists.*

a. **Review cores annually to determine continued relevance to neurosciences.**
   i. Provide annual reports to the Consortium Board that reflect cores utilization and client satisfaction.

b. **Develop a structured approach to evaluate major equipment purchases and new cores [e.g., costly (>$1 million) equipment such as gene sequencing, mass spectrometry, imaging, computer facilities, etc.] and to eliminate redundancy and internal competition.**
   i. Ensure that this structured approach also evaluates the organization of the core facility to optimize its utility to the community and to facilitate use of new technologies on campus.

c. **Continue to improve vivaria.**
   i. Explore strategies to decrease vivaria costs.
   ii. Consider alternatives (e.g., off-site vivaria) for management of animals.

d. **Develop a systematic approach to identifying core resource requirements associated with new recruitments.**
   i. Encourage other campus units using neuroscience cores to identify the resources that will be needed.

e. **Develop a campus-wide informatics initiative that optimizes the ability to share data and resources across campus, as well as externally.**
   i. Minimize barriers to sharing information across campus that relate to fragmented IT organization and management.
   ii. Continue to develop UCLA as a center of excellence for high performance computing and make resources available to a broader community.

f. **Lobby on behalf of the UCLA neuroscience community for the following:**
   i. Streamline management of IRB protocols.
      - Create online mechanisms for submission and management of protocols.
   ii. Address IACUC issues.
      - Develop blanket protocols for specific procedures.
   iii. Streamline and optimize Intellectual Property issues.
      - Ensure that all neuroscience departments deal with the same officer.

**Primary Function 4 would be the responsibility of the Grants and Infrastructure Committee of UCfN with oversight by the Board.*

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

***Primary Function 5*: Facilitate optimal coordination for grants and other proposals that would have neuroscience community-wide impact such as T32 training grants, high-end equipment grants, construction/renovation grants, and any proposals with institutional restrictions, (e.g., only one or a limited number of submissions per institution). ***

a. Establish a committee of the Board to oversee this function and to report to the Board on a regular basis for input.

i. Grants committee is responsible for proposal deadlines in a timely manner.

ii. Provide results on selections and outcomes for each grant and/or proposal to the broader neuroscience community; utilize the neuroscience-wide website to communicate results.

**Primary Function 5 would be the responsibility of the Grants and Infrastructure Committee of UCfN with oversight by the Board.*

The *UCLA* Consortium for Neuroscience:

Pioneers in understanding the nervous system and preventing, treating and curing its disorders.

***Primary Function 6*: Integrate UCLA neuroscientists across all schools and departments.**

a. Create a comprehensive, fully-integrated neuroscience website that links individual departments, ORU's, programs and institutes with the School of Medicine and UCLA campus-wide websites.

i. Provide the same descriptions for neuroscience faculty on all websites as vetted by the neuroscience website.

ii. Ensure key words utilized on any of these websites are fully linked and send users to the same, fully-integrated information; for example, if a user enters a key word for "multiple sclerosis" on the UCLA website, the user will get the same list of faculty as would be provided on the neuroscience website).

iii. Identify an individual with support staff to develop and manage all aspects of the website.

iv. Assign the **Brain Research Institute** to oversee the neuroscience website initiative.

v. Utilize the website to distribute the Consortium SP&DG's communication since the SP&DG is ultimately responsible for bi-directional communication from the Consortium to the entire UCLA neuroscience community; SP&DG to provide regular updates to the Consortium Board on web-communication.

vi. Link UCLA neuroscience community together by increasing awareness about current research efforts by UCLA neuroscientists.

vii. Develop a searchable database that provides information about all UCLA neuroscience faculty and their research interests.

viii. Ensure that sufficient resources are provided for maintaining the website.

b. Facilitate multi-directional communications between Consortium Board, Strategic Planning & Direction Group and the broader UCLA neuroscience community (SP&DG to be responsible for this function).

Brain Research Institute (BRI): Clearly define the BRI's roles and responsibilities in relation to the new UCLA Consortium for Neuroscience.

BRI Roles and Responsibilities:

a. **Continue to provide research support through its resources and endowments.**

b. **Continue to serve as the educational unit of the UCLA neuroscience community.**

   i. Oversee graduate education and management of the IDP program.

   ii. Coordinate neuroscience seminar series, symposia.

   iii. Work with the Consortium Board to ensure training grant coordination.

c. **Continue to foster the development of the emerging new affinity groups and related activities.**

d. **Manage and maintain the centers which have evolved from the affinity groups.**

e. **Continue to provide and strengthen communication across the UCLA neuroscience community.**

   i. Oversee UCLA neuroscience website development and daily management of the website (refer to Consortium Board Primary Function #6, page 21).

   ii. Distribute communication materials from the Strategic Planning and Direction Group to all neuroscientists in the UCLA community.

f. **Manage existing BRI cores.**

g. **Ensure sufficient resources are available to support the BRI roles and responsibilities.**

Goal B: ***Position UCLA neuroscience to increase fundraising and align fundraising efforts with the overall vision for UCLA neuroscience.***

UCLA Neuroscience Strategic Plan

Goal B: ***Position UCLA neuroscience to increase fundraising and align fundraising efforts with the overall vision for UCLA neuroscience.***

Strategy B.1	**Identify neuroscience "themes" for focused program development and targeted fundraising.**
Strategy B.2	**Develop an active fundraising campaign for neuroscience.**
Strategy B.3	**Establish a dedicated development group for neuroscience.**
Strategy B.4	**Improve public awareness and understanding of neuroscience.**

UCLA Neuroscience Strategic Plan

Strategy B.1

Identify neuroscience "themes" for focused program development and targeted fundraising.

Tactics:

a. Identify three neuroscience themes for focused development; the ideal themes should fit the following criteria:

i. Provide large neuroscience community-wide impact; are all inclusive.

ii. Involve basic, translational and clinical research elements.

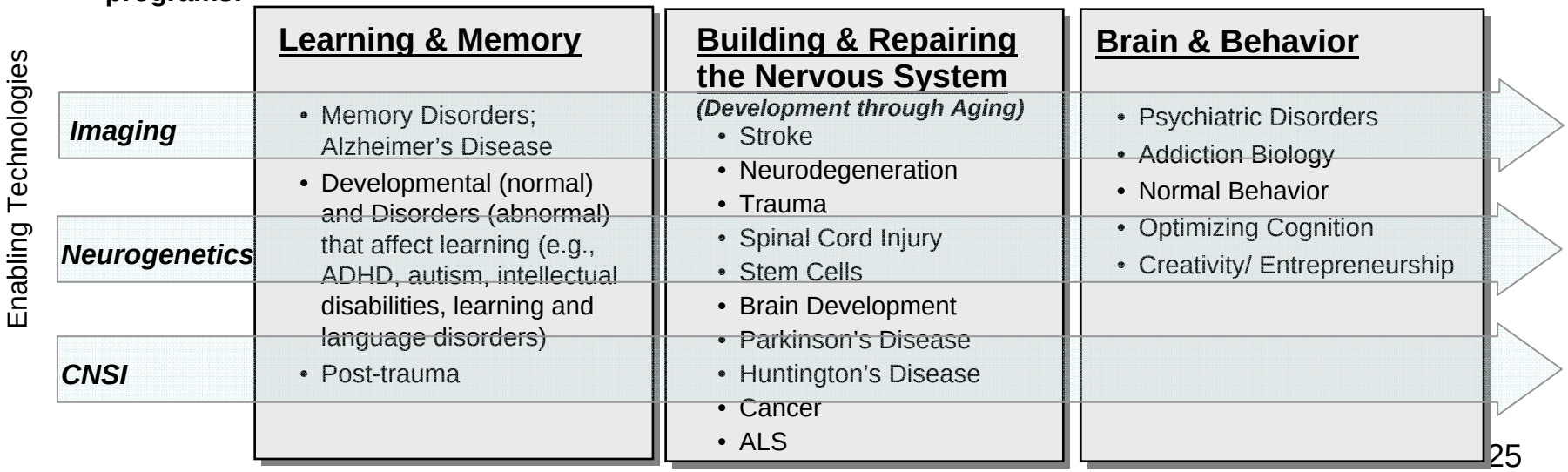
iii. Are conceptual, not methodological.

iv. Can impact both disease and normal states.

v. Are not specific to a single department.

vi. Are non-traditional.

b. Recommend the following three themes for programmatic development and targeted fundraising, each to include the application of enabling technologies – imaging, neurogenetics and the CNSI - in development of the programs:



UCLA Neuroscience Strategic Plan

Strategy B.1

Identify neuroscience "themes" for focused program development and targeted fundraising.

Tactics:

a. Create "thematic development plans" for each of the three themes that address the following four questions:*

1. *What are the issues with **(INSERT THEME/PROGRAM)** and why are they important enough conditions that UCLA wants to address them as part of this new neuroscience initiative?*
2. *What is the desired outcome that you intend to achieve by addressing this condition? (Within 3-5 years? Within a decade or more?)*
3. *How are we going to spend new money to address it and how much money do we think is necessary to achieve the desired outcome? (Note: details on FTEs, space, cores, equipment, etc.) to be provided in this section.)*
   - *Research Program Summary*
   - *Education Program Summary*
   - *Clinical Program Summary*
4. *Conclusion*

i. Identify program leaders for each theme to take the lead on the thematic development plans.

b. Create a campaign brochure and advertisements that present the UCLA neuroscience vision and launch the campaign - built upon the top priority themes.

Source: Refer to concrete example discussed during NSTF meetings: Children's Discovery Institute – a research institute developed by St. Louis Children's Hospital and Washington University utilizing this same approach to raise funds for its development and support.
See http://www.childrensdiscovery.org

Strategy B.2 **Develop an active fundraising campaign for neuroscience.**

Tactics:

a. **Upon completion of the Neuroscience Strategic Plan, submit a request to the Chancellor to allow neuroscience to launch a fundraising campaign to implement the Strategic Plan.**

b. **Utilize the three neuroscience themes to drive targets for neuroscience fundraising campaign.**

c. **Develop specific fundraising goals for the neuroscience community.**

d. **Involve donors in planning and launching the campaign.**

e. **Internally stress the urgency of the campaign given the competitive local market for neuroscience (e.g., if UCLA does not proactively launch this campaign in the immediate term, Cedars-Sinai or USC will).**

f. **Reach out to UCLA alumni who may be interested in funding neuroscience research initiatives.**

g. **Encourage donors to contribute to educational programs or general funds.**

h. **Build in an "online giving" mechanism on the central website.**

Strategy B.3 **Establish a dedicated development group for neuroscience.**

Tactics:

a. **Create a "Capital Campaign Committee" of the UCLA Consortium for Neuroscience Board to oversee the fund-raising campaign.**

b. **Assess relationship with UCLA Development Office to determine how best to improve fundraising support for this major initiative.**

c. **Hire dedicated staff who report to the UCfN Capital Campaign Committee and who will provide dedicated neuroscience development and fundraising for this campaign.**

d. **Provide expertise to departments and centers to set up their own advisory and support groups.**

e. **Develop an improved donor database that provides UCLA neuroscience fundraising staff with up-to-date progress reporting and tracking of donor information.**

f. **Monitor the ratio of development staff to philanthropic funds raised.**

Strategy B.4 **Improve public awareness and understanding of neuroscience.**

Tactics:

a. **Increase public recognition of UCLA neuroscience through the new UCLA Consortium for Neuroscience as well as through the programmatic themes and the fund-raising campaign.**

b. **Identify a cadre of scientists who are able discuss UCLA neuroscience research in layman's terms to the general public.**

c. **Involve faculty in community education via lectures to the public (e.g., Partners in Discovery, Friends of the Semel Institute).**

d. **Better represent basic science research to fundraising office and potential donors.**

   i. Focus on the importance of basic scientists and their discoveries relative to the overall UCLA research enterprise.

e. **Develop fundraising literature that elucidates what UCLA neuroscience is to the community.**

f. **Establish an integrated neuroscience website that links to all individual neuroscience websites at UCLA (link to Primary Function 6 in Goal A).**

g. **Ensure coordination with Goal C, Strategy 5, "Increase neuroscience education of patients and the larger community."**

Goal C: Develop, nurture and retain top neuroscientists to foster excellence in basic and clinical neuroscience and as a key to improving educational and training programs.

UCLA Neuroscience Strategic Plan

Goal C: ***Develop, nurture and retain top neuroscientists to foster excellence in basic and clinical neuroscience and as a key to improving educational and training programs.***

Strategy C.1	**Increase the caliber of graduate students who are accepted to UCLA.**
Strategy C.2	**Provide undergraduates and graduate students with rigorous training and education.**
Strategy C.3	**Provide training opportunities and support for outstanding postdoctoral fellows.**
Strategy C.4	**Enhance training of scientists and clinicians in the community through CME and other educational forums.**
Strategy C.5	**Increase neuroscience education of patients and the larger community.**

Strategy C.1

Increase the caliber of graduate students who are accepted to UCLA.

Tactics:

a. **Evaluate the composition of the graduate programs to ensure that each program is comprised of only the highest quality students.**

   i. Consider decreasing size of programs.

b. **Develop a system to critically evaluate students throughout their training.**

   i. Include objective criteria and mechanism for dismissing students from programs at both didactic and research phases of education and training.

   ii. Include mechanisms for recognizing unusually talented and productive graduate students.

c. **Enhance website dedicated to recruitment of graduate students. Ensure the website highlights the following:**

   i. Faculty areas of interest;

   ii. Interdisciplinary research areas;

   iii. Interdisciplinary educational opportunities;

   iv. Training programs and associated enrichment programs (e.g., affinity group meetings, symposia, journal clubs); and

   v. Research infrastructure and core resources.

d. **Accept students with outstanding academic achievements as measured by GPA, GRE scores and outstanding research accomplishments.**

e. **Develop mechanisms to increase involvement of outstanding faculty in the recruitment of graduate students.**

Strategy C.2

Provide undergraduates and graduate students with rigorous training and education.

Tactics:

a. Integrate and unify neuroscience educational programs, where appropriate.

b. Identify and develop areas of educational excellence.

i. Immediately create tracks for the following areas:

- Imaging;
- Learning and memory;
- Neurogenetics and phenomics;
- Neurodevelopment and repair;
- Neural circuits

ii. Consider additional tracks for the future; allowing for flexibility and being responsive to the interests of students (e.g., reward and addictive behavior).

iii. Create small, interactive courses within each area of excellence as well as options for more personalized curricula in interdisciplinary areas such as: engineering, physics, evolution biology, bioinformatics and chemistry.

iv. Incorporate existing affinity groups and journal clubs into curriculum with consistent naming of areas of excellence.

v. Maintain and/or establish T32 training grants for every area of excellence.

- Provide centralized administrative support for these grants.

vi. Offer a one-week intensive “boot camp” to introduce incoming graduate students to educational resources and opportunities at UCLA (e.g., cores, faculty, programs, affinity groups, etc.).

Strategy C.2

Provide undergraduates and graduate students with rigorous training and education. *(cont'd)*

Tactics:

c. Improve didactic curriculum in basic science graduate programs.

i. Capitalize on existing neuroscience strengths (e.g., neurogenetics, learning and memory, imaging, microcircuits and neural repair).

ii. Incorporate flexibility into each student's didactic curricula requirements.

d. Increase inter-programmatic and interdisciplinary exposure of students and trainees.

i. Unify neuroscience IDP and neurobiology graduate programs.

ii. Integrate training of graduate students with other training programs (e.g., engineering, psychology, biomath).

iii. Increase crosstalk between MSTP, STAR, M.D. and Ph.D.s.

iv. Increase exposure of graduate students to the clinical domain; emphasize clinical experience graduate students can receive at UCLA.

e. Develop an organizational expectation that outstanding faculty will be actively involved in student recruitment and teaching.

f. Establish an evaluation process for faculty mentors of graduate students.

i. Launch a mentorship steering committee to oversee this process and to direct students to solid mentors.

g. Increase involvement of outstanding faculty in first-year didactics.

h. Recognize faculty excellence in education through an annual award.

Strategy C.3

Provide training opportunities and support for outstanding postdoctoral fellows.

Tactics:

a. **Create a website dedicated to the recruitment of postdoctoral fellows. Ensure the website highlights the following:**

i. Faculty areas of interest;

ii. Interdisciplinary research areas;

iii. Interdisciplinary educational opportunities;

iv. Training enrichment programs (e.g., affinity group meetings, symposia, journal clubs);

v. Research infrastructure and core resources; and

vi. Training grant opportunities for postdoctoral fellows.

b. **Maintain and/or establish T32 training grants for postdoctoral positions in every area of excellence.**

i. Provide centralized administrative support for these grants.

c. **Include mechanisms for recognizing unusually talented and productive postdoctoral fellows.**

d. **Strengthen and support activities of postdoctoral society relevant to career opportunities and training in neuroscience.**

i. Provide access to corporate employers (e.g., job fair, career seminar series, etc.).

e. **Develop a mechanism to expose post-doctoral fellows to clinical neuroscience; explore utilizing K30 program to do this.**

Strategy C.4

Enhance training of scientists and clinicians in the community through CME and other educational forums.

Tactics:

a. **Continue to support on-campus weekly seminars in neurosciences (e.g., joint seminars, grand rounds, neurogenetics, imaging).**

b. **Continue to increase the number of Semel and BRI-sponsored activities on campus associated with UCLA neuroscience areas of excellence.**

   i. Provide CME credit for these activities, where appropriate.

c. **Encourage clinicians to attend affinity group activities.**

   i. Ensure some activities occur in the evenings to allow clinicians to attend.

Strategy C.5

Increase neuroscience education of patients and the larger community.

Tactics:

a. **Develop a public lecture series given by basic and clinical neuroscience faculty.**

b. **Hold a neuroscience community open house for select members of the public (e.g., donor groups, community groups, schools).**

c. **Identify space on or near campus (e.g., Hammer Museum, Skirball Museum, etc.) to be used for public education and exhibition of neuroscience research.**

d. **Create a website for the public that describes UCLA neuroscience research and its areas of excellence.**

e. **Ensure that the UCLA Development Office includes neuroscience educational activities as part of its goals and objectives (e.g., Neuro Star program).**

f. **Ensure linkages with media relations.**

g. **Link to Strategy B.4.**

III. Next Steps

Next Steps

The Neuroscience Task Force identified the following steps for rapid implementation and community awareness of the plan:

A. Announce the Chancellor's approval and provide the resources to launch the capital campaign.

B. Announce themes to the UCLA community and the public.

C. Support the launch of unified graduate training programs.

D. Implement educational tracks for graduate students.

E. Enhance core neuroscience support on campus.

F. Announce the UCLA Consortium for Neuroscience (UCfN) and its inclusiveness of the Neuroscience community.

IV. Appendices

A. Strategic Planning (Internal) Interviews
B. Stakeholder Survey
C. External Benchmark Assessment
D. Environmental Assessment

Strategic Planning Phase I ("Planning Research") Reports

E. Blue Ribbon Report
F. BRI Report

APPENDIX A: Internal Strategic Planning Interviews

Internal Interview Results

INTERNAL INTERVIEW RESULTS

As part of Phase I of the strategic planning process, confidential interviews were conducted with thirty-two individuals (within 26 interview slots), as identified and invited by the Neuroscience Task Force*. The collective input of these interviews is presented throughout Appendix A.

Interviewee	School	Department
Art Arnold, Ph.D.	College of Letters & Sciences	Physiological Science
Hugh "Tad" Blair, Ph.D.	Geffen School of Medicine	Psychology - Behavioral Neuroscience
Gene Block, Ph.D.	Chancellor, UCLA	Physiological Science
Dean Buonomano, Ph.D.	Geffen School of Medicine	Neurobiology
Tyrone Cannon, Ph.D.	College of Letters & Sciences	Psychology - Clinical
Marie Francoise Chesselet, M.D., Ph.D.	Geffen School of Medicine	Neurology/Neurobiology
Tim Deming, Ph.D.	School of Engineering & Applied Sciences	Bioengineering/Biomedical Engineering
David Eisenberg, Ph.D.	Geffen School of Medicine	Institute for Genomics & Proteomics; Chemistry & Biochemistry
Chris Evans, Ph.D.	Geffen School of Medicine	Psychiatric & Biobehavioral Neurosciences
Michael Fanselow, Ph.D.	College of Letters & Sciences	Psychology - Learning & Behavior
Nelson Freimer, M.D.	Geffen School of Medicine	Psychiatric & Biobehavioral Neurosciences
Mark Frye, Ph.D.	College of Letters & Sciences	Physiological Science
Judy Gasson, Ph.D.	Director, Jonsson Comprensive Cancer Center	Medicine/Biological Chemistry
Daniel Geschwind, M.D., Ph.D.	Geffen School of Medicine	Neurology/Psychiatric & Behavioral Neurosciences
Linda Liau, M.D., Ph.D.	Geffen School of Medicine	Neurosurgery
Kelsey Martin, M.D., Ph.D.	Geffen School of Medicine	Psychiatric & Biobehavioral Neurosciences
Neil Martin, M.D.	Geffen School of Medicine	Neurosurgery
John Mazziotta, M.D., Ph.D.	Geffen School of Medicine	Neurology
Paul Mischel, M.D.	Geffen School of Medicine	Pathology & Laboratory Medicine
Istvan Mody, Ph.D.	Geffen School of Medicine	Neurology/Physiology
Bennet Novitch, M.M.Sc., Ph.D.	Geffen School of Medicine	Neurobiology
Tom Otis, Ph.D.	Geffen School of Medicine	Neurobiology
Russ Poldrack, Ph.D.	College of Letters & Sciences	Psychology - Cognitive
Carlos Portera-Cialliau, M.D., Ph.D.	Geffen School of Medicine	Neurology
Emil Reisler, Ph.D.	College of Letters & Sciences, Physical Sciences	Chemistry/Biochemistry
Leonard Rome, Ph.D.	Dean, Geffen School of Medicine	Biological Chemistry
Alvarro Sagasti, Ph.D.	College of Letters & Sciences	Molecular, Cell & Developmental Biology
Alcino Silva, Ph.D.	Geffen School of Medicine	Neurobiology
Arthur Toga, Ph.D.	Geffen School of Medicine	Neurology
Peter Whybrow, M.D.	Geffen School of Medicine	Psychiatric & Biobehavioral Neurosciences
William Yang, M.D., Ph.D.	Geffen School of Medicine	Psychiatric & Biobehavioral Neurosciences
Larry Zipursky, Ph.D.	Geffen School of Medicine	Biological Chemistry/HHMI

* For donor interviews, see page 64; donors included Mr. Tom Sherak, Mr. and Mrs. Gaven and Shari Staglin.
For student/trainee interviews, see page 68.

Strengths of UCLA Neuroscience

1. UCLA has a deeply embedded culture of collaboration and collegiality. ***(72%)***

- UCLA is collaborative and open compared to other places which function more as ivory towers.
- UCLA works as a community -- flexible, not restricted by department boundaries.
- It is advantageous to have the medical school tightly integrated on campus with other schools and colleges.
- Good overall interdepartmental relationships with programs and program leaders who want to collaborate.

2. The following programmatic strengths were noted: ***(44%)***

- Imaging
- Learning and Memory
- Clinical Populations/Biostatistics
- Genetics
- Systems Neuroscience
- Therapeutics & Stem Cell Applications
- Behavioral Research

3. UCLA has tremendous breadth and depth in neuroscience research from basic science to patient populations. ***(44%)***

- "We have expertise in everything."
- UCLA has a unique niche in translational and collaborative research with direct access to patients and clinicians.
- Strong clinical and basic science programs exist on the same campus with other schools and departments.

Strengths of UCLA Neuroscience *(cont'd)*

4. The large number of neuroscientists at UCLA is advantageous. ***(40%)***

- UCLA has large number of active and well-funded neuroscientists.
- The size of the neuroscience community is an asset; collaboration is possible from all areas.

5. UCLA has some very distinguished faculty with national and international reputations. ***(36%)***

- Some neuroscience faculty members are stellar, although not many; a few are recognized internationally.
- The organization benefits from strong researchers who are also clinicians.

6. Strong junior faculty recruits have been made in the last decade. ***(20%)***

- A lot of investment in recruitment has been made and will continue to be in the future.
- Some junior faculty may not succeed but they are good for collaboration because younger faculty members are more likely to collaborate.

Strengths of UCLA Neuroscience *(cont'd)*

7. Faculty have access to good research space and infrastructure. *(12%)*

- Researchers have access to cutting-edge ICU technology (scanners, functional MRI, etc.) – no other institution in the world has this technology available to its researchers.
- Our proximity to the main campus is an asset; stem cell, engineering, etc. are good collaborative partners.
- UCLA has recently built new neuroscience research buildings with modern laboratories.

8. UCLA leadership supports neuroscience. *(12%)*

- The Chancellor and the Dean are very interested in neuroscience.

Weaknesses of UCLA Neuroscience

1. The size of UCLA's neuroscience community is unwieldy. *(44%)*

- The program is so big it's hard to know what's here.
- Neuroscience is scattered around in many different buildings – people feel disconnected.
- It's hard to develop close knit communities given the large size of UCLA neuroscience.

2. UCLA neuroscience needs strong, unified leadership. *(40%)*

- "We have more people, grants and publications than most other Neuroscience programs but Neurosciences is less than the sum of its parts due to a lack of leadership."
- "Fiefdoms exist; some of our leaders will not cooperate with sharing space and other resources."
- UCLA lacks strategic planning; leadership only responds to retention issues and crises; leadership needs to find a way to make unified decisions that are neuroscience-wide.

3. A vast number of neuroscience faculty are not at the top of their fields. *(36%)*

- Allowing diluted overall quality takes resources away from others.
- "We recruit out of convenience by hiring graduate students and promoting junior faculty."
- Evaluation of faculty is critical - faculty are promoted too easily.
- It's hard to attract really good post docs and grad students because there are too few superstars.
- People seem to believe that collaboration/collegiality and excellence are mutually exclusive.

Weaknesses of UCLA Neuroscience *(cont'd)*

4. UCLA is not ideally organized despite having a very collaborative faculty overall. ***(32%)***

- Decentralization of departmental structure results in redundancy and a web of conflicting and cross-cutting incentives.
- Having numerous departments decreases coherence with national practices and does not help our national and international reputation.

5. UCLA lacks visible programs of excellence. ***(32%)***

- UCLA needs trans-departmental programs that frame the strengths of the institution.
- "Because UCLA is a large institution, some of the neuroscience leaders seem to think it is acceptable to do all types of neuroscience research; this, however, has led to our mediocrity."

6. Excellence goes unrecognized. ***(24%)***

- "UCLA has undergone a renaissance in last 10 years but the rest of the country still sees UCLA as it was 10 - 15 years ago."
- UCLA fails to promote and advertise neuroscience accomplishments.

7. Graduate programs are not attracting top students. ***(20%)***

- Graduate programs are fragmented and without a unifying theme.
- The recruitment process needs to be improved.

Weaknesses of UCLA Neuroscience *(cont'd)*

8. Insufficient space and poor space allocation processes hinder productivity. ***(20%)***

- UCLA lacks a coherent, rational and thematic allocation of space based on common interest
- Space is allocated based upon department chairs who have the power to influence the Dean's office.

9. Core services have notable gaps. ***(20%)***

- There is not enough investment in shared technologies and cores so people are protective gatekeepers instead of facilitators.

UCLA Neuroscience Strategic Plan

Aspects of neuroscience to emphasize or in which to invest

Interviewees made the following general comments:

- Select areas that are likely to be realized in 15-20 years and where UCLA can truly make an impact.
- Build on existing training grant programs -- they are indicative of critical mass; however these are not the only areas to develop.
- Emphasize areas that are complementary to each other and that can be easily identified by donors for fundraising.
- Eliminate redundancy and make programs efficient.
- Emphasize areas that have implications across species and disorders.
- "This is a dangerous question; imposing areas of work could be problematic in this culture."

Specific Areas for Emphasis or Investment were mentioned:

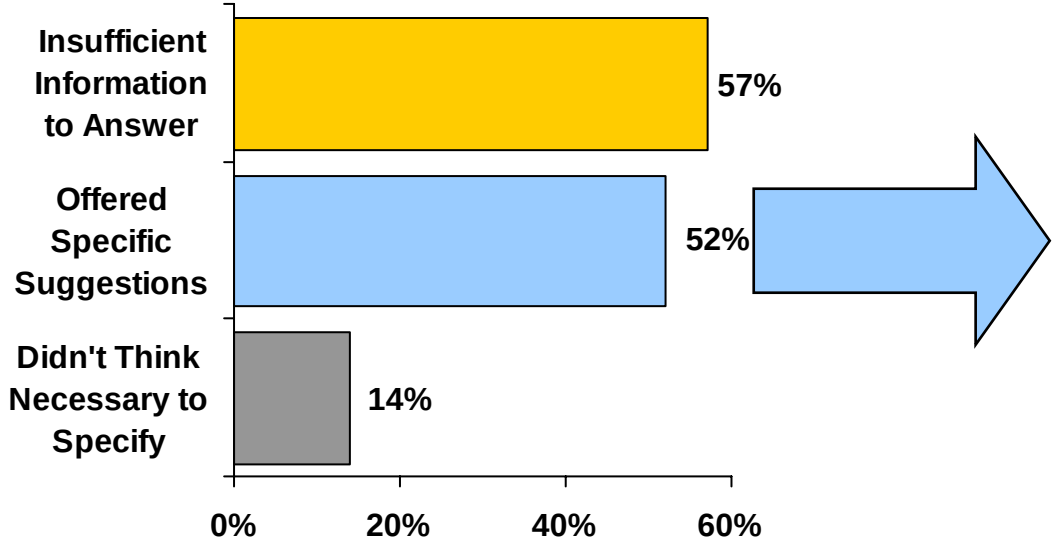
Area Mentioned	# of Times Mentioned
Neuroimaging	13
Learning and Memory	10
Translational Neuroscience	7
Neurogenetics	7
Brain Circuitry	5
Neural Repair	5
Neuroscience	4
Biobehavioral & Cognitive Neuroscience	4
Genomics and Proteomics	3
Systems Neuroscience	3
Stem Cells Research	2
Molecular Neuroscience	2
Basic Science Research	2
Bioengineering	2
Developmental Biology	1
Brain Tumors	1
Therapeutics	1
Aging	1

UCLA Neuroscience Strategic Plan

Areas less likely to develop into nationally prominent programs for UCLA

Comments related to insufficient information

- Review the data to see what the strengths are and build from that – direct resources accordingly.
- Deemphasize areas that are not well developed, are not productive and lack prominence in their fields.



Comments related to "didn't think it necessary to specify"

- Neuroscience is a discipline that cannot afford not to represent all core disciplines.
- Don't be overly exclusive; we need a broad net because "science is fickle."

Specific Program Suggestions

- Neuroendocrinology (n=3)
- Computational neuroscience (n=2)
- Learning and memory (n=2)
- Molecular neuroscience (n=2)
- Sensory research (n=1)
- Neuroimmunology (n=1)
- Neurogenetics (n=1)
- Neuroengineering (n=1)
- Synapse research (n=1)
- Neurodegeneration (n=1)
- Neurochemistry (n=1)
- Mouse research (n=1)
- Physiological sciences (n=1)
- Primate research (n=1)
- Electrophysiology (n=1)
- Developmental neuroscience (n=1)

UCLA Neuroscience Strategic Plan

Programs to support or be created to achieve clinical & basic science alignments

1. Develop programs around research techniques and methodologies: *(64%)*

- Stem cells;
- Neurogenetics;
- Bioengineering;
- Molecular biology;
- Neurotherapeutics;
- Imaging;
- Data collection and informatics;
- Phenotyping;
- Developmental Biology;
- Behavioral approaches; and
- Microcircuitry.

2. Develop programs around neurological diseases and conditions: *(60%)*

- Learning and memory;
- Neurodegenerative disorders;
- Neural repair and rehabilitation;
- Schizophrenia;
- Mood disorders;
- Developmental disorders;
- Stroke;
- Brain tumor;
- Brain injury; and
- PTSD.

UCLA Neuroscience Strategic Plan

Programs to support or be created to achieve clinical & basic science alignments *(cont'd)*

3. Provide mechanisms to facilitate collaboration. ***(40%)***

- Build upon existing strengths and collaborations.
- Support big program grants that are multi-departmental and multi-school through a good organizational structure and incentives to foster this type of collaboration.
- Get basic scientists involved in clinical programs.
- Recruit individuals with MD/PhD who participate in both clinical and laboratory work.
- Increase awareness of who is here and what they do.

4. Invest resources to support collaboration. ***(36%)***

- Provide seed money for developing novel collaborations.
- Facilitate tissue collection and tissue banking.
- Support the development of a research database built upon the EMR.
- Recruit donors to support selected collaborative programs.

UCLA Neuroscience Strategic Plan

Short-term steps to achieve excellence, keeping in mind budget constraints

1. **Develop mechanisms to facilitate and encourage interdisciplinary collaboration.** ***(36%)***
   - Continue to support collaborative symposiums across campus.
   - Increase awareness of research expertise and cores across campus.
   - Actively encourage other schools and departments to become involved in neuroscience; this should be spearheaded by the Chancellor.
2. **Strategic faculty recruitment is critical but there is no consensus on the best approach.** ***(32%)***
   - Ensure that search committees are interdisciplinary and comprised of excellent scientists.
   - Engage in more joint recruitments.
   - Attract superstars with national and international reputations.
   - "We need terrific mid-career scientists who are top-notch, nationally recognized and bring funding ."
   - Conduct national searches--no local recruits.
3. **Establish an organizational approach for neuroscience administration that results in more cohesive relationships across neuroscience.** ***(32%)***
   - Overlay an organizational structure based on the BRI.
   - Provide resources and clearly defined authority to the organizational structure that emerges.
   - Compensate faculty for assuming administrative leadership roles.
4. **Identify tangible resources that will be dedicated to building neuroscience.** ***(32%)***
   - Consider having departments contribute FTEs for direct recruitment to a neuroscience institute.
   - Develop dedicated contiguous space for neuroscience initiatives.
   - Enhance neuroscience cores.
   - Provide seed grants.

UCLA Neuroscience Strategic Plan

Short-term steps to achieve excellence, keeping in mind budget constraints *(cont'd)*

5. Develop thematic research focal points into institutes or centers. ***(32%)***

- Invest in a limited number of programs.
- Actively promote research focal points to establish a more prominent brand.
- Consider building programs around existing training grant programs.

6. Increase UCLA's presence on the national and international scene. ***(24%)***

- Proactively work towards getting UCLA neuroscience faculty on national boards, review committees, National Academy of Sciences, etc.
- Create a neuroscience-wide UCLA symposium that brings in nationally and internationally renowned neuroscientists while also showcasing UCLA Neuroscience.
- Work closely with the public information and external affairs offices to strategically place articles in local, regional and national media.

7. Craft a plan and act on it. ***(20%)***

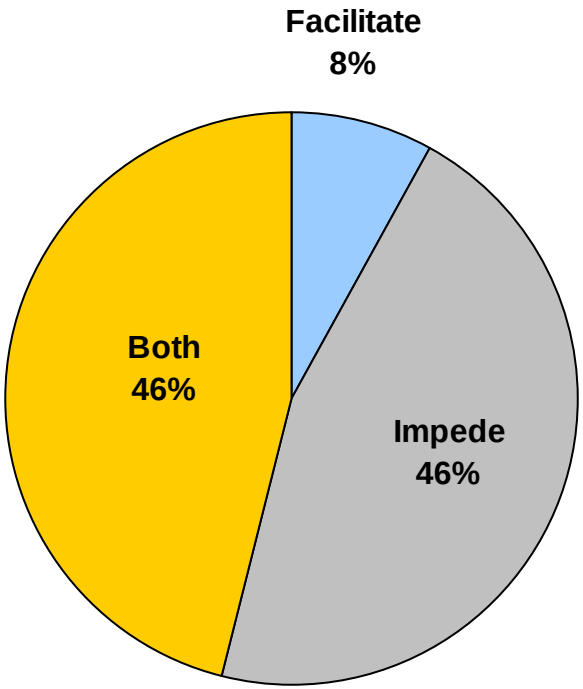
- Make sure the plan is realistic.
- Consider how best to garner philanthropic support to fund the plan.
- Make a plan to leverage additional NIH support made available through the stimulus package.

8. Measure results and improve accountability. ***(16%)***

- Develop a fair, transparent, merit-based process across UCLA that that assesses faculty, space, financial support, recruitment, retention and advancement.

UCLA Neuroscience Strategic Plan

Extent to which UCLA's academic structure, organization, policies & procedures facilitate vs. Impede excellence in neuroscience



"Impede" – Comments

- The departmental structure impedes excellence.
  - Departments control space, FTEs, faculty promotion/tenure.
  - Interdisciplinary programs such as neuroscience are not compatible with parochial structure.
- Bureaucracy inhibits productivity; problems noted with purchasing, grants and contracts, renovation management and animal protocols.
- UCLA is not sufficiently committed to excellence; policies and procedures do not promote excellence and leadership fails to enforce high standards.
- Educational programs could be better managed.
  - Interdepartmental programs are poorly funded.
  - Tripartite mission detracts from teaching.
  - Hold instructors to higher standards.

"Facilitate" – Comments

- The BRI is good at building collaborations and has empowered people to develop ideas.
- The absence of a strong hierarchical structure facilitates excellence at UCLA.
- The traditional departmental structure is advantageous because departments are responsible for the bulk of the teaching load.
- Faculty co-location on a single campus is a huge asset.
- Neuroscience administrative staff is competent and easy to work with.
- UCLA has an environment of collegiality and a collaborative spirit.

UCLA Neuroscience Strategic Plan

Recommendations to promote coordination and collaborations in neuroscience across school and disciplinary boundaries

1. Reward collaboration. *(40%)*

- Develop specific grant and fund mechanisms for this type of collaboration.
- Consider duplicating the models that have been successful in the Cancer Center.
- Award prizes to labs collaborating from different departments.
- Ensure that credit for collaborative grants is shared fairly.

2. Foster affinity groups and organic collaborations. *(40%)*

- Provide administrative support and refreshments to encourage informal gatherings and forums.
- Develop regular opportunities to hear about neuroscience research; require faculty to give talks and provide intellectual information to the community.
- Build an internet database that describes what everyone does; highlight two different faculty members each week.

3. Develop a collaborative leadership approach. *(20%)*

- "Consider expansion or evolution of structures like the Neurosciences Academy that can serve in a collaborative leadership role."
- Strengthen the BRI to assume a greater role in leading collaboration.
- Ensure that program and departmental leaders are capable of collaborative leadership.

Recommendations to promote coordination and collaborations in neuroscience across school and disciplinary boundaries

4. Create a new overarching organizational structure. *(20%)*

- Establish a governance structure that is non-departmental and pursues excellence that results in transformational change.
- Break up departmental structure and be at the forefront of creating a new organization; shift resources accordingly.
- Identify a well-respected leader to build strong collaborations across UCLA.

5. Develop centers and/or institutes with vibrant unifying themes. *(16%)*

- Establish clear policies procedures for identifying affinity groups, centers and institutes.
- Routinely evaluate the effectiveness and productivity of centers and institutes to determine if they should be continued.
- Provide resources, cores, and space to support these thematic endeavors.

6. Use joint recruitment as a mechanism to foster interdisciplinary collaboration. *(12%)*

- Collaborative searches could improve the caliber of new hires.

UCLA Neuroscience Strategic Plan

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees

1. Create a shared organizational/governance structure for UCLA neuroscience. *(54%)*

- Revamp the current compartmentalized governance structure changed to one establishes a shared governance approach across UCLA neuroscience.
- Evaluate the use and/or role of the Neuroscience Planning Committee in light of a new neuroscience governance model; it is critical that a single, unified oversight body be established that makes collective strategic decisions for development of neurosciences across UCLA.
- Ensure that a new collaborative structure has the authority to make strategic decisions and has access to resources for neuroscience development.
- Address the current departmental fiefdoms that exist; transfer power from department chairs to a new neuroscience institute and establish a governing board of 8+ stellar faculty members. Consider rotating positions.
- Build interdepartmental research center focused on a few very active themes rather than departments.
- Allow for shared resources across departments.

UCLA Neuroscience Strategic Plan

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees *(cont'd)*

2. Develop a UCLA-wide neuroscience fund-raising and advertising campaign that promotes UCLA's excellence to the community, foundations, donors, government and funding agencies. ***(42%)***

- Establish a closer relationship with the UCLA Development Office; develop a fundraising campaign for neurosciences.
- "Ensure that UCLA is perceived to be as good as it is in neurosciences."
- Develop mechanisms to enhance awareness of neurosciences on campus and in the community.
- Market UCLA neuroscience strengths and our plans for the future to key constituency groups.
- Position UCLA at the forefront of development of neurosciences over the next decade, nationally and internationally.
- Reorganize to enhance public image of neuroscience at UCLA.

3. Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists. ***(39%)***

- Consider establishing a free-standing neuroscience institute.
- Assess the current laboratory/space distribution across neurosciences and determine if it would be beneficial to establish greater space adjacencies across departments.
- Build upon strong informatics capabilities and establish databases that are neuroscience-wide, including human tissue, animal models, etc.
- Establish a central umbrella structure to oversee neuroscience-wide infrastructure and space-related decisions; increase transparency of neuroscience resource allocation (FTEs and space).
- Increase university support of neuroscience core facilities.

UCLA Neuroscience Strategic Plan

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees *(cont'd)*

4. Establish mechanisms that would foster strong research collaborations across departments and schools. ***(39%)***

- Launch a UCLA neuroscience national symposium that is topical (e.g., synapses to circuits, learning and memory, joint symposium on computational neuroscience) with invited national and international speakers.
- Build a UCLA neuroscience lecture series to showcase research excellence, provide a forum to discuss cross-departmental and cross-school research collaborations.
- Consider organizing a University of California Neuroscience Symposium.
- Utilize the BRI as the scientific collaborative venue for the neuroscience-wide community at UCLA.
- Provide incentives (e.g., seed grants, collaborative pilot grants, etc.) for faculty, particularly junior faculty, to collaborate across disciplines.

5. Recruit, retain and promote excellent neuroscience faculty. ***(31%)***

- Develop a centralized strategy for neuroscience faculty recruitment and advancement.
- Faculty recruitment should be targeted towards areas of excellence defined in the strategic plan.
- Recruit 2 to 3 mid- to senior-level faculty over the next 3 to 5 years in areas that would broadly benefit the neuroscience community.
- Ensure decisions made on recruitment, retention and promotion benefit the UCLA neuroscience community and the overall reputation of excellence.
- Allow for recruitment of a highly acclaimed, flagship scientist with potential for a neuroscience Nobel Prize.
- The strategy of recruiting high level faculty may not be effective because even these individuals will get lost in the size of UCLA.

UCLA Neuroscience Strategic Plan

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees *(cont'd)*

6. Implement measurable, high standards of excellence for all UCLA neuroscientists (e.g., address mediocrity). ***(27%)***

- Establish policies and procedures (e.g., merit-based reviews, resource allocation, etc.) that ensure excellence.
- Create positive incentives that reinforce excellent work; determine how to properly finance this activity.
- Develop measurable expectations for excellence across neurosciences to elevate UCLA's reputation in the field.
- Commit to eliminating less than successful areas of neurosciences research; "be bold".
- Insist that a culture of excellence be the guiding decision-maker.

7. Identify thematic areas for development that can drive neuroscience excellence. ***(23%)***

- Utilize a thematic structure to increase UCLA's national and international prominence.
- Identify UCLA's unique strengths that do not overlap with competitors' strengths.
- Collectively identify targeted areas for growth and development of neurosciences that match where the field is headed in the future.
- Ensure faculty recruitment follows the creation of "institutes or centers" rather than preceding these efforts.
- Utilize faculty and resources that currently exist to develop areas of excellence and strengthen UCLA's position nationally.

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees *(cont'd)*

8. Strengthen neuroscience education and training programs. ***(19%)***

- Revamp the neuroscience graduate program; develop a unified program across neurosciences.
- Decrease redundancy in teaching across neurosciences.
- "Excellence is based on the students who come to UCLA and that is influenced by the faculty who are here, who good students want to work with. By improving faculty excellence, educational programs are improved."
- Develop a collaborative translational and clinical research program where neurology, neurosurgery and psychiatry residents can learn about research methodologies.

9. Foster basic and translational research; ensure continued commitment to the basic sciences. ***(19%)***

- Further encourage integration of basic and clinical neuroscience.
- "Basic science at UCLA is vulnerable given the strengths of the clinical departments."
- Strengthen prominence of developmental and molecular neurobiology; invest in molecular genetics.
- Take better advantage of the biological strengths at UCLA where there is also access to clinical patients.
- Push the boundaries of phenotyping neurological diseases.

Top strategic priorities to be addressed in this strategic plan, as recommended by interviewees *(cont'd)*

10. Address animal rights extremism and proactively protect faculty. *(12%)*

- "State and local government, UCLA and department chairs are not proactive enough in minimizing the threat of animal extremism against neuroscientist faculty."
- "As animal extremist activities directed at neuroscience research ramps up, UCLA is put at a competitive disadvantage."
- Recruitment and retention of neuroscientists who conduct animal research is a key issue that needs to be addressed.

Donor Interview Results

Confidential interviews were conducted with Mr. Tom Sherak and Mr. and Mrs. Garen and Shari Staglin.

1. What motivated you and made you decide to make a donation to UCLA?

- Motivation began due to an illness to a family member.
- Wanted to fund mental health research, and were approached by UCLA Development.
- We had a child who was a UCLA student.
- We are alumni.
- UCLA needed good, solid, multidisciplinary neuroscience research in our field of interest. A multidisciplinary approach was an essential component of the donation.

2. Was the process (mechanics) of donating easy or difficult?

- Fairly easy, although the administration process was difficult long ago; no one at UCLA was sure how to establish a foundation as it was all new back then.
    - Bob Collins was incredibly helpful as the day-to-day person dealing with allocation of funds, so it ended up working very well.
- Very easy! It took some time to find the right scientist. UCLA didn't have a set price per chair at the time as this was all very new to them. It was clear in our minds that we wanted this to be multidisciplinary.
- Not so easy. Working with the development office on the documentation process and the timing of when the grant was going to be made was not easy.

Confidential interviews were conducted with Mr. Tom Sherak and Mr. and Mrs. Garen and Shari Staglin. *(cont'd)*

3. If it was difficult, what could the University have done to make the process of donating easier? What could the University have done better?

- It is unclear if the Development Office proactively cultivates foundations.
- Communication and follow-up should be improved.
- UCLA needs to be much more donor-oriented/volunteer data base organized like Stanford (Stanford is first-rate at donor recognition).
- Fund-raising at UCLA seems to be more staff led and 'volunteer-light' in how it goes about achieving its goals.
- UCLA needs a substantial ramp up in data analysis in current and prospective donors and better use of donor volunteers.

4. How effective is the UCLA Development Office? How did the Development office assist you?

- The Development Office helped with administrative core flow, which was important.
- Overall, it was pretty good.

5. Was the outcome of your donation satisfactory?

- Both interviews noted that they were absolutely satisfied with the outcome of their donation. Both were most proud of the support and accomplishments of the scientist receiving the support.

6. Would you consider donating again to UCLA?

- Comments from both interviews were a resounding "yes!"

Confidential interviews were conducted with Mr. Tom Sherak and Mr. and Mrs. Garen and Shari Staglin. *(cont'd)*

7. Other comment offered

- "For neuroscience, we need to foster a central idea across UCLA."
- "It would be great to see this under a single university-wide neuroscience program."
- "Need leadership that is not egocentric, so everyone is encouraged to work together."

Student/Trainee Interview Results

UCLA Neuroscience Strategic Plan

Seven students/trainees identified by the NSTF were invited to participate in a group interview conducted by AMC Strategies. The collective results are presented on the following pages.

Interviewee	Program	Department
Jason Hauptman, M.D.	Resident, Department of Neurosurgery Fellow, Specialty Training and Advanced Research (STAR) Program Neuroscience IDP, Laboratory of Michael Levine, PhD	Neurosurgery
Naomi Kenner	Graduate Student, Ph.D. Program	Psychology
Brett S. Abrahams, Ph.D.	Post-doctoral fellow, Program in Neurogenetics	Neurology
Andrew Vosko	Graduate Neuroscience IDP program (Ph.D.)	Semel Inst./ Psychiatry
Genevieve Konopka, Ph.D.	Post-doctoral fellow	Neurology
Mark Dodson	Graduate Student MSTP (M.D./Ph.D.)	Neurology
Woj M. Wojtowicz	ACCESS, Ph.D. program, Laboratory of Larry Zipursky, Ph.D.	Biological Chemistry

During your recruitment visit, how do you think UCLA represented itself?

Positive Perceptions

A. UCLA neuroscience is a vibrant, interactive and collaborative community.
   - There is a multitude of shared resources across departments and programs.
   - Affinity groups facilitate collaboration across neurosciences.
   - Weekly seminars (e.g., Synapses to Circuits) are excellent.

B. Faculty are accessible, collegial and interested in discussing candidates' areas of interest.
   - Pairing of students and faculty with shared interests during tours is a plus.
   - Neurosciences IDP recruitment is effective with faculty member presentations and involvement.
   - Follow-up phone calls and emails from faculty are well received.

C. Faculty have breadth across thematic neuroscience programs.

D. Organized social events and planned interactions with current graduate students benefit recruitment process.

E. Director of ACCESS is a strength of the program.

F. Neurosciences umbrella program provides students with flexibility to choose department after program begins.

G. Scheduling tours during the winter season benefits recruitment, particularly prospective students from the east coast.

During your recruitment visit, how do you think UCLA represented itself? *(cont'd)*

Negative Perceptions

A. Faculty seem to be isolated from each other because of the size of neuroscience at UCLA.

B. Lack of funding to support graduate training in some departments.

C. Inadequate oversight and support for graduate students.

D. Some department's recruitment processes and tours are not organized effectively.

UCLA Neuroscience Strategic Plan

Why did you choose to come to UCLA?

A. Strong neurosciences education; students are taught by some professors who invented the field.

B. Specific principal investigator / lab.

C. Excellence in neurogenetics and genomics.

D. M.D. / Ph.D. program.

E. Los Angeles location.

What has your experience at UCLA been like?

Positive Perceptions

A. Collaborative and productive academic atmosphere for graduate students, post-docs and residents.

- Outstanding resources, particularly seminars and distinguished lecture series.
- Excellent faculty mentors.
- Multitude of faculty/labs, postdocs and staff to collaborate with.

B. “Neuroscience administrator is very good.”

C. Multiple faculty and administrators who provide guidance and support to graduate students and postdocs.

What has your experience at UCLA been like? *(cont'd)*

Negative Perceptions

A. Lack of faculty mentors, faculty panels and/or forums for graduate students to seek guidance on career opportunities, particularly on careers outside of the academic arena.

B. Size of neurosciences community contributes to disconnect between M.D./Ph.D.s and Ph.Ds that seems to impede collaboration and translational research.

C. "Fund managers in graduate division are not helpful."

D. Uneven TA workload requirement between departments makes it more difficult for some students to accomplish coursework for their degree program.

E. Post-doc perceptions on their initial period at UCLA: felt "lost"; lack of positive feedback; after getting settled at UCLA, these feelings subsided.

What made you choose the lab you are in currently?

A. Topic – neurodegeneration.

B. PI is a leader in the field.

C. Availability of funding.

D. Strong mentor.

What has your experience been with basic science courses offered at UCLA?

A. Some departments (e.g., psychology, neurology) are coursework heavy with an emphasis on quantitative methods and statistics, while other programs (i.e., ACCESS) are not.

B. There is a need for better elective choices (i.e., electrophysiology).

C. Some basic science professors are outstanding – they invented the field.

How do you feel about your community of students and postdocs?

A. Smart, collegial graduate students and post-docs easily form collaborations.

B. Mixed community of students in terms of quality – some are very strong while others are not; not what was expected for such a large neuroscience community.

C. UCLA provides a supportive and appreciative educational and training community.

D. "The (student) work ethic is not as strong as at other universities, but that trickles down from the principal investigators."

E. "I think the admissions committee could be more selective."

F. Large and diverse student community that lacks cohesiveness.

- Difficult to organize students to participate in meetings and activities of interest.
- Once students complete their coursework requirements, the "community" vanishes; "my 'community' is my lab and the people in other labs with whom we collaborate."

UCLA Neuroscience Strategic Plan

To which other schools/programs were you accepted and/or not accepted?*

Inter-viewee	Accepted To	Not Accepted To	Neurosciences Programs They Perceive To Be Stronger than UCLA Neuroscience
#1	Harvard, MIT	University of Washington	"Harvard, Yale and UCSF are very strong in traditional neuroscience; UCLA has found an important niche in neurogenetics/ genomics."
#2	University of Pittsburg/CNBC (Neuro), Queens – Kingston, Ontario (Neuro)	UC Berkeley (Neuro), Washington University (Neuro)	N/A
#3	University of Michigan, University of Iowa, University of Wisconsin, University of Pennsylvania, Dalhousie University, University of Virginia, University of Illinois	Harvard	"I cannot say I know of a 'better' school. UCLA is a fantastic institution for neuroscience."
#4	Johns Hopkins, Harvard	None	"Rockefeller and Columbia are better than UCLA in developmental neuroscience."
#5	University of Washington, Washington University, Mayo, Case Western Reserve	Harvard, UCSF, Stanford, Duke	"UCLA compares well to most neurosciences programs and there are faculty here that are as good as faculty anywhere. However, UCLA might lack the depth of excellent faculty one would find at universities such as Harvard and Johns Hopkins."
#6	N/A	N/A	"UCSF, UCSD and Harvard are extremely competitive."
#7	N/A	N/A	Harvard, Columbia, UCSF and UCSD.

*(Note: interviewees remained anonymous on the answers provided below; each provided written input without names.)

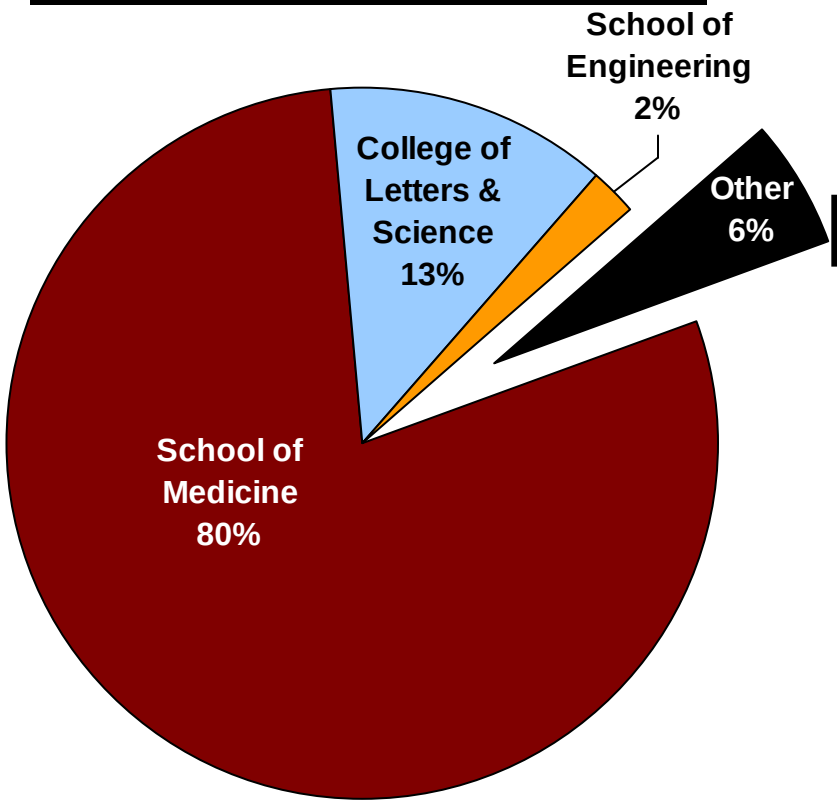
APPENDIX B: Stakeholder Survey

Respondent Demographics

UCLA Neuroscience Strategic Plan

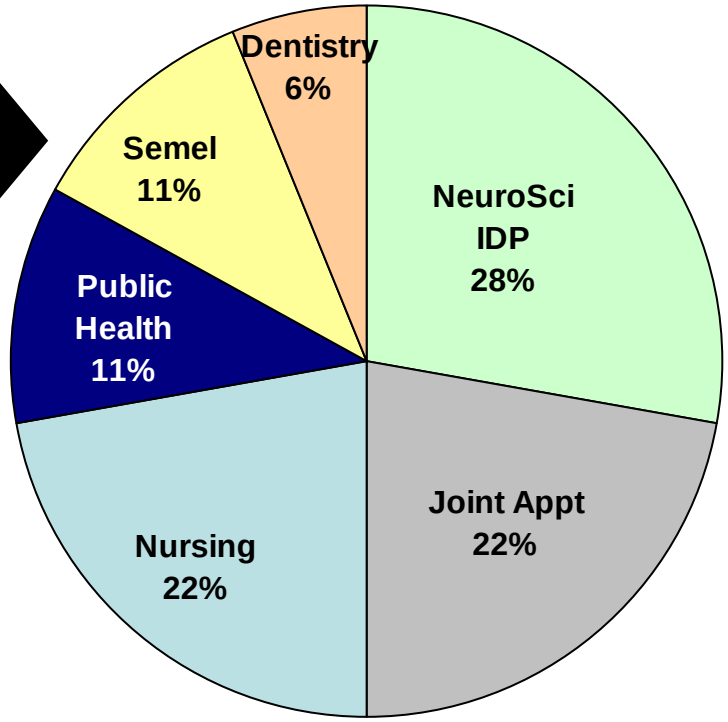
Eighty percent of survey participants were from the School of Medicine followed by 13 percent from the College of Letters & Science.

Distribution by School or College



n = 328

'Other' Breakdown



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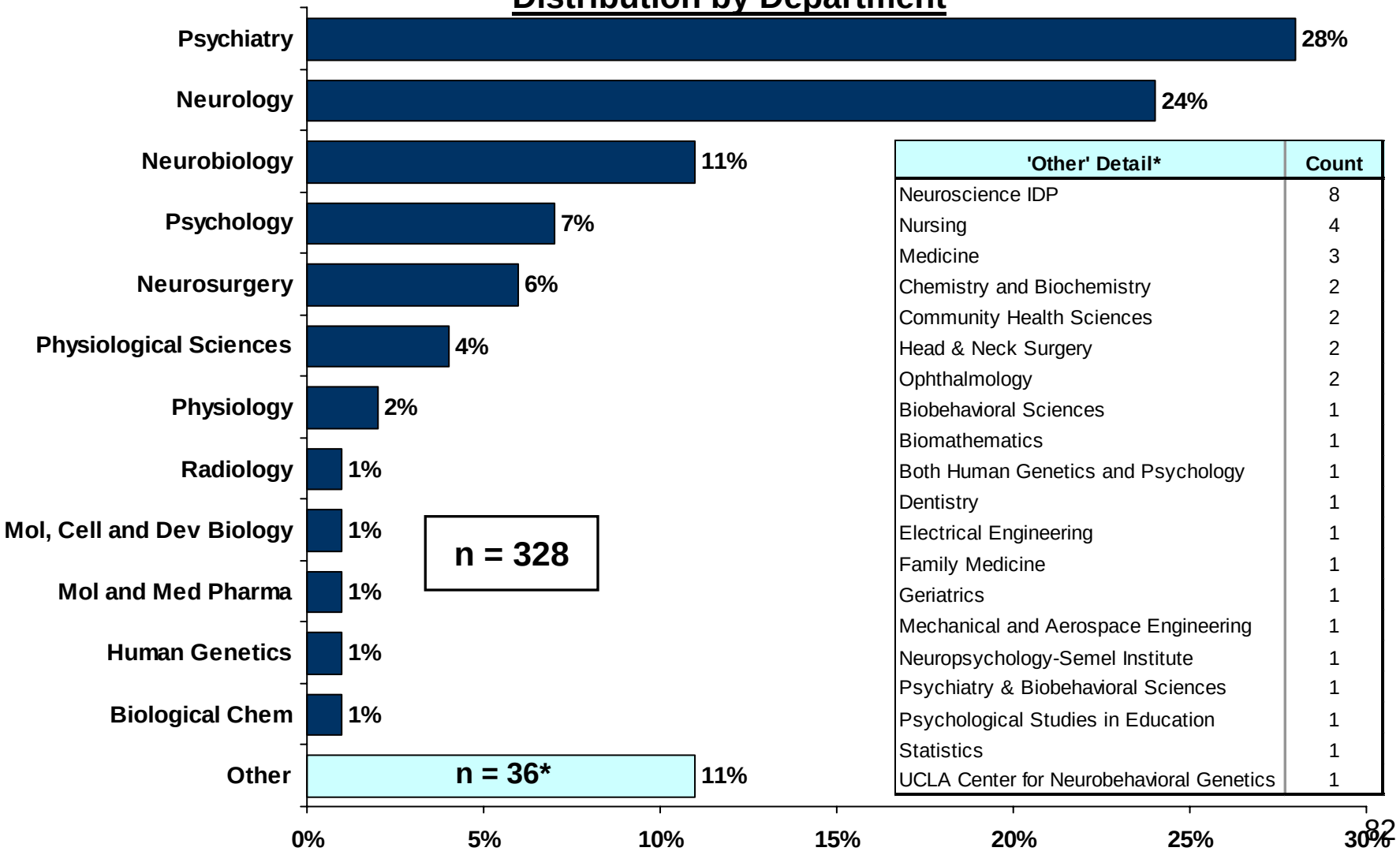
UCLA Neuroscience Strategic Plan

A breakdown by department is presented below. Psychiatry, Neurology and Neurobiology comprise 63 percent of the total number of respondents.

Distribution by Department

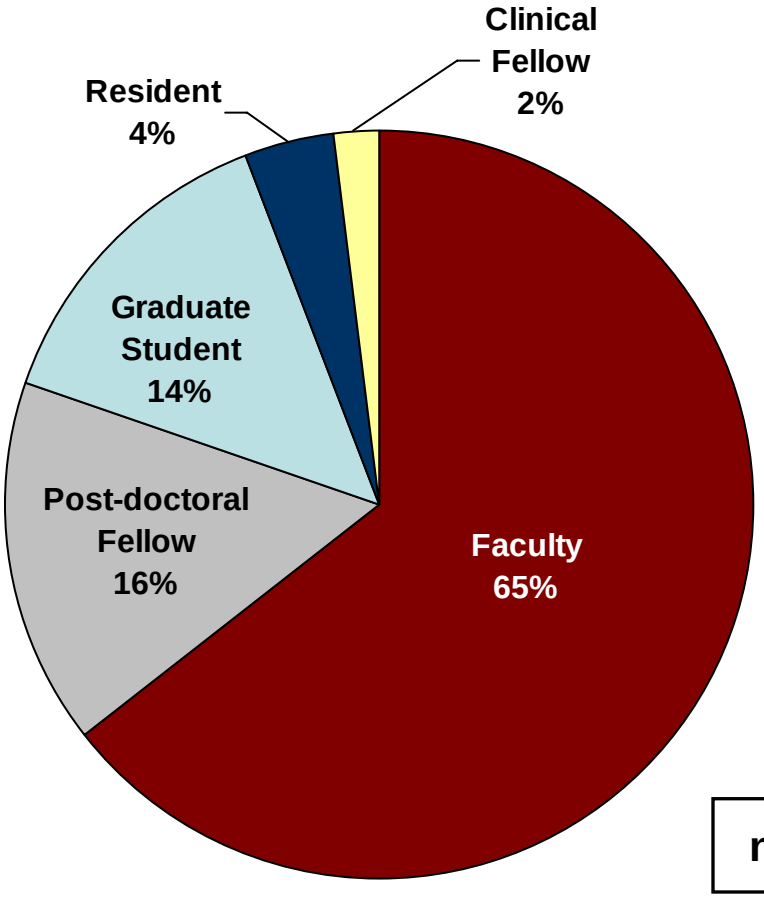


'Other' Detail*	Count
Neuroscience IDP	8
Nursing	4
Medicine	3
Chemistry and Biochemistry	2
Community Health Sciences	2
Head & Neck Surgery	2
Ophthalmology	2
Biobehavioral Sciences	1
Biomathematics	1
Both Human Genetics and Psychology	1
Dentistry	1
Electrical Engineering	1
Family Medicine	1
Geriatrics	1
Mechanical and Aerospace Engineering	1
Neuropsychology-Semel Institute	1
Psychiatry & Biobehavioral Sciences	1
Psychological Studies in Education	1
Statistics	1
UCLA Center for Neurobehavioral Genetics	1

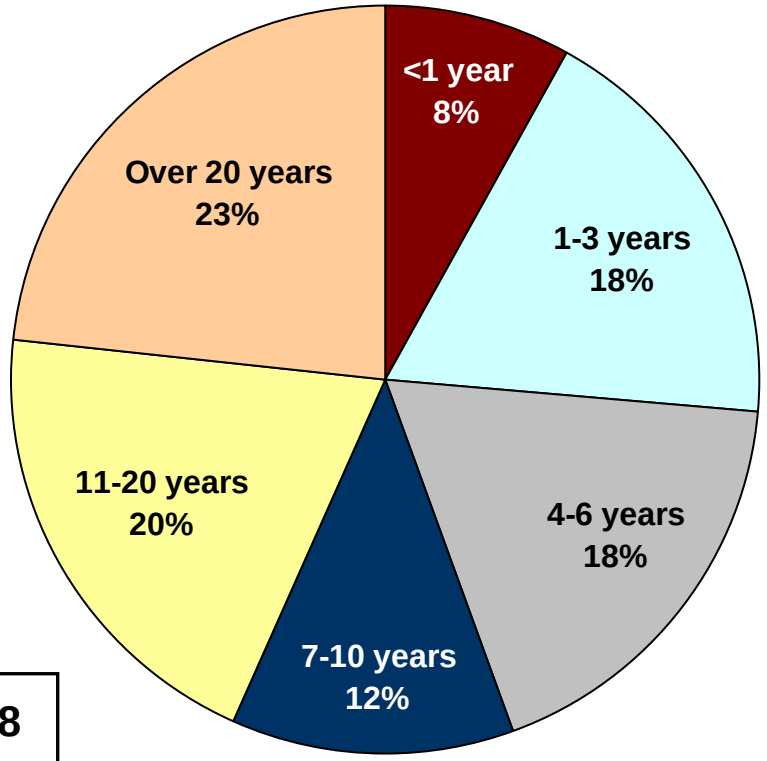
UCLA Neuroscience Strategic Plan

Sixty-five percent of the survey respondents were "faculty". Post-doctoral fellows and graduate students comprise 16 percent and 14 percent, respectively. Forty-three percent of the respondents have been at UCLA for more than 10 years.

Distribution by Role



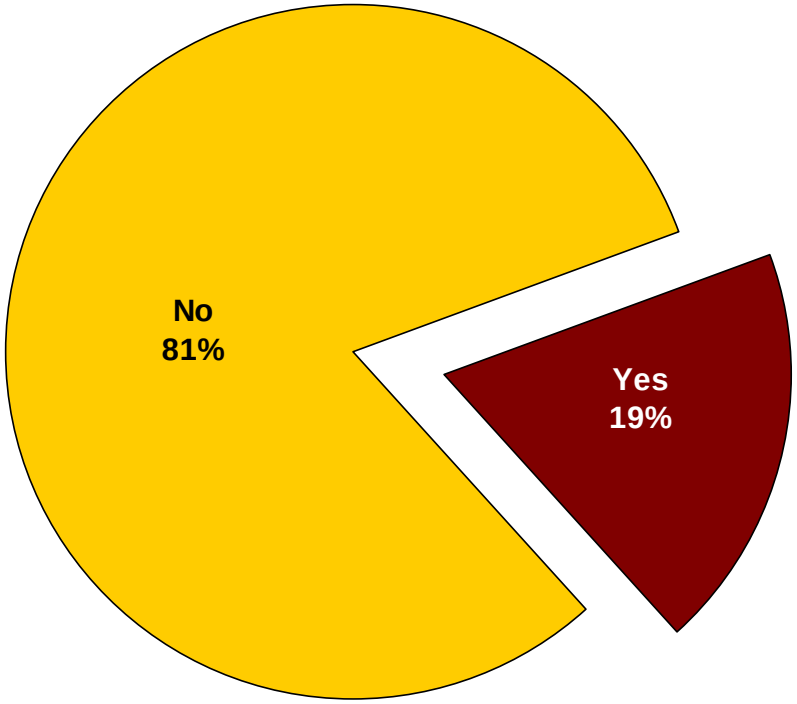
Distribution by Years at UCLA



n = 328

Eighty-one percent of the survey respondents did not receive their degree(s) from UCLA. Of the 19 percent (62 individuals) who did receive UCLA degree(s), more than half (52%) received Ph.D's from UCLA.

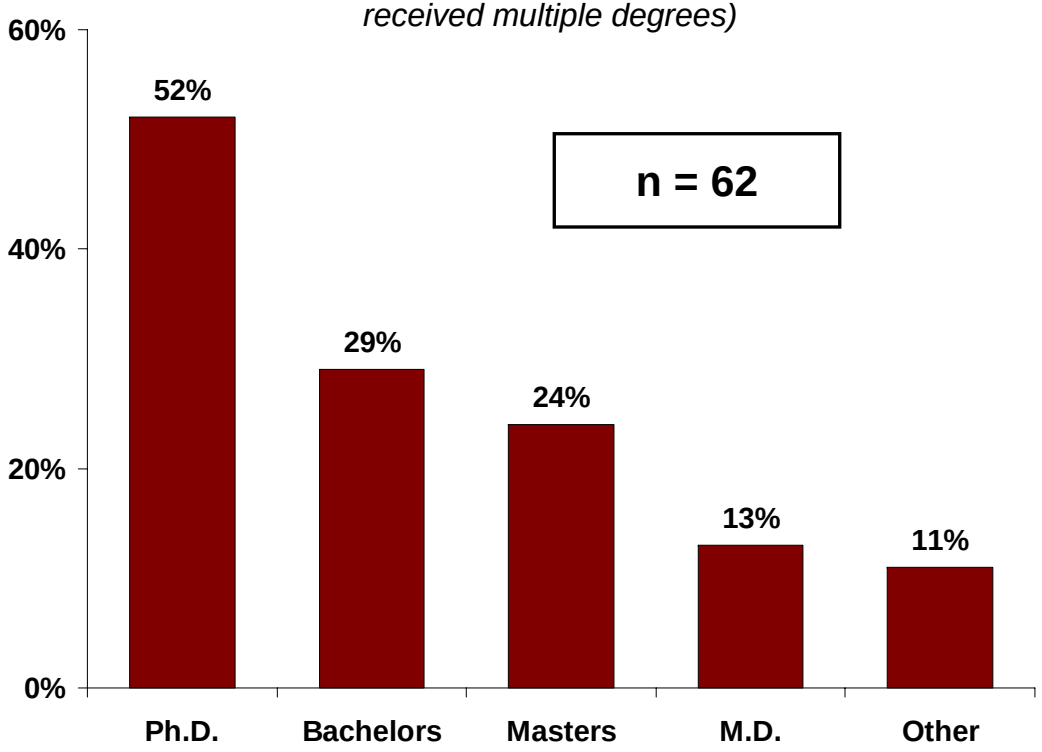
Distribution by UCLA Degree



n = 328

UCLA Degree Received, if Applicable

(responses will not total 100% as some participants received multiple degrees)

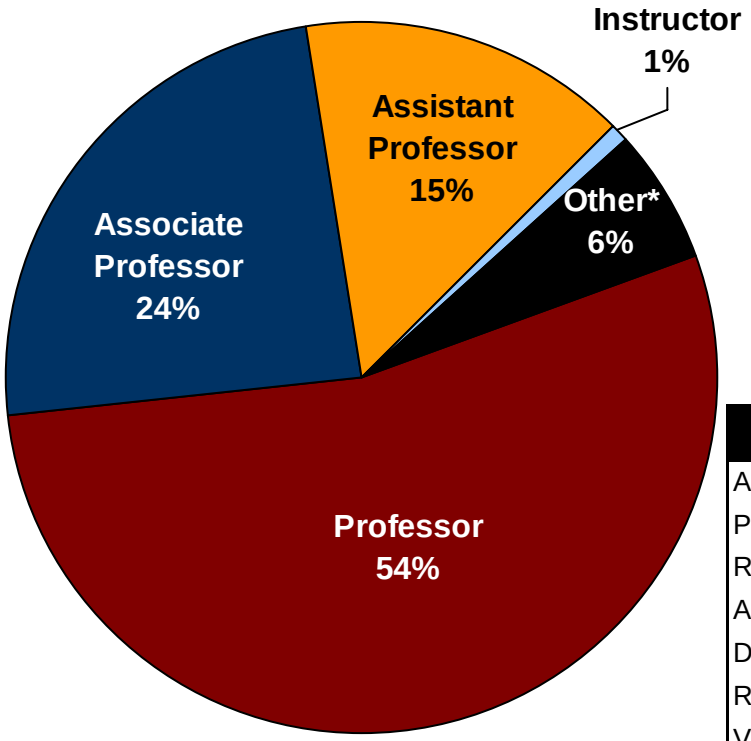


n = 62

UCLA Neuroscience Strategic Plan

Fifty-four percent of faculty respondents are full professors, twenty-four percent are associate professors and fifteen percent are assistant professors. Sixty-eight percent of faculty respondents spend ten percent or less of their time on patient care activities.

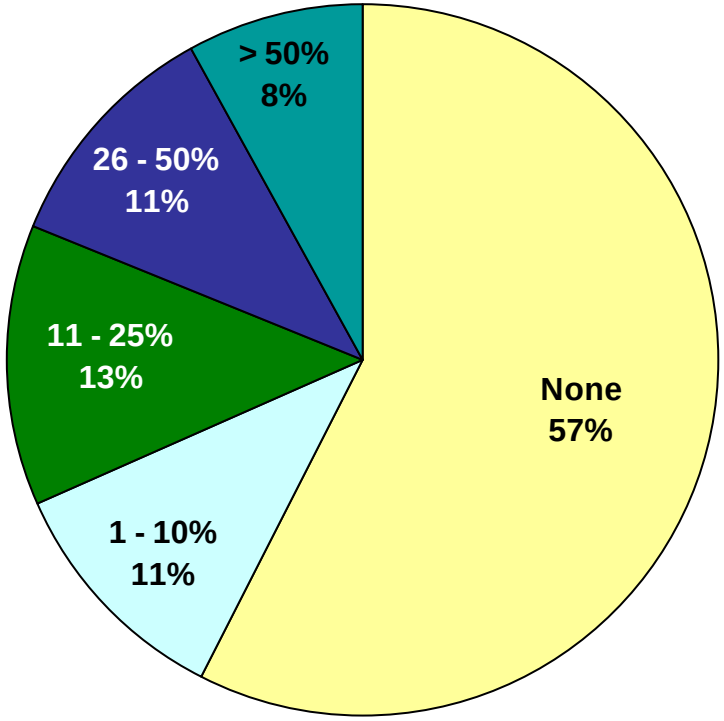
Faculty Distribution by Rank



n = 212

'Other' Rank*	Count
Assistant Researcher	4
Professor Emeritus	2
Researcher	2
Associate Researcher	1
Distinguished Professor	1
Researcher II	1
Visiting Researcher	1

Faculty % Time in Patient Care



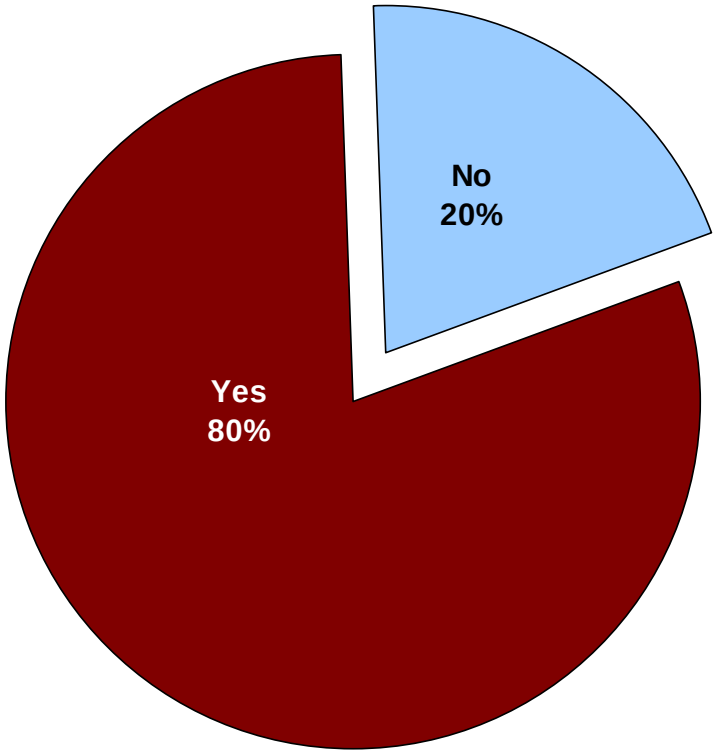
Post-doc, Graduate Student, Residents, Clinical Fellows

UCLA Neuroscience Strategic Plan

Post-docs, graduate students, residents and clinical fellows were asked if UCLA was their first choice for training. Eighty percent indicated that UCLA was their first choice. Of the 20 percent who answered "no", the table at the right lists their first choices.

Post-Docs, Graduate Students, Residents and Clinical Fellows

Was UCLA Your #1 Choice for Training?



n = 116

If no, what was your 1st choice?*

	Graduate Student	Post-doctoral Fellow	Resident	Total
UC Berkeley	3			**3**
UC San Diego	2	1		**3**
UC San Francisco	2	1		**3**
Harvard University		2		**2**
Johns Hopkins	1		1	**2**
MIT	2			**2**
Stanford	1	1		**2**
Carnegie Mellon	1			**1**
University of WA	1			**1**
West LA VA		1		**1**

* Some respondents gave more than one answer.

Other Institutions to Which Participants Were Accepted**

Graduate Student	# Admitted
USC	9
UC Irvine	8
UC San Francisco	4
NYU	4
UC San Diego	3
Univ MI	3
UC Davis	3
Penn	3
Emory	3
UC Santa Barbara	2
OHSU	2
Wash U	2
Vanderbilt	2
Univ WI	2
Univ IL	2
UNC Chapel Hill	2
SUNY	2
Northwestern	2
Nowhere	2
Pittsburgh	2
Cornell	2
All Other*	26

*Represents those institutions with 1admission

**Most respondents gave more than one answer

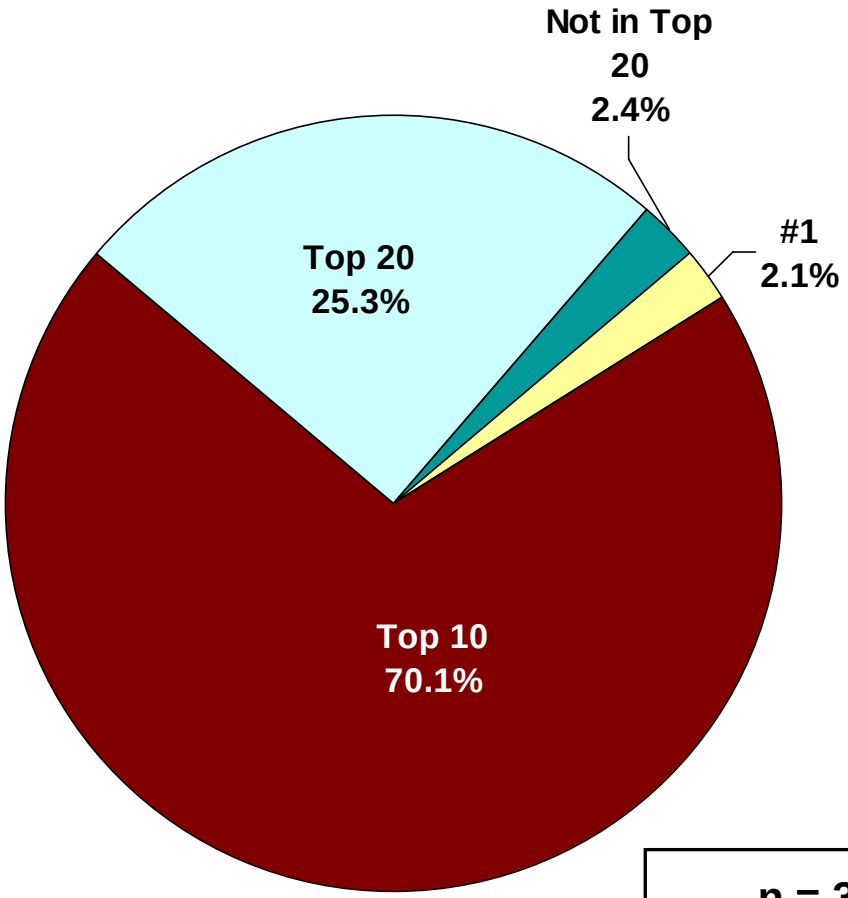
Post-Docs	# Admitted
Harvard	4
USC	2
NIH	2
Boston University	1
Cal Tech	1
Cambridge	1
Charles Drew Med Univ	1
Children's Hospital Boston	1
Columbia	1
Einstein	1
Florida State	1
Mayo Clinic	1
MIND Institute	1
MIT	1
Northwestern	1
OHSU	1
Stanford	1
UC Berkeley	1
UC Davis	1
UC Irvine	1
UC San Diego	1
UC San Francisco	1
Uni lund, Sweden	1
Univ IA	1
Univ WA	1
University of Bonn, Germany	1
UT Southwestern	1
Vanderbilt	1
Yale	1

National Reputation

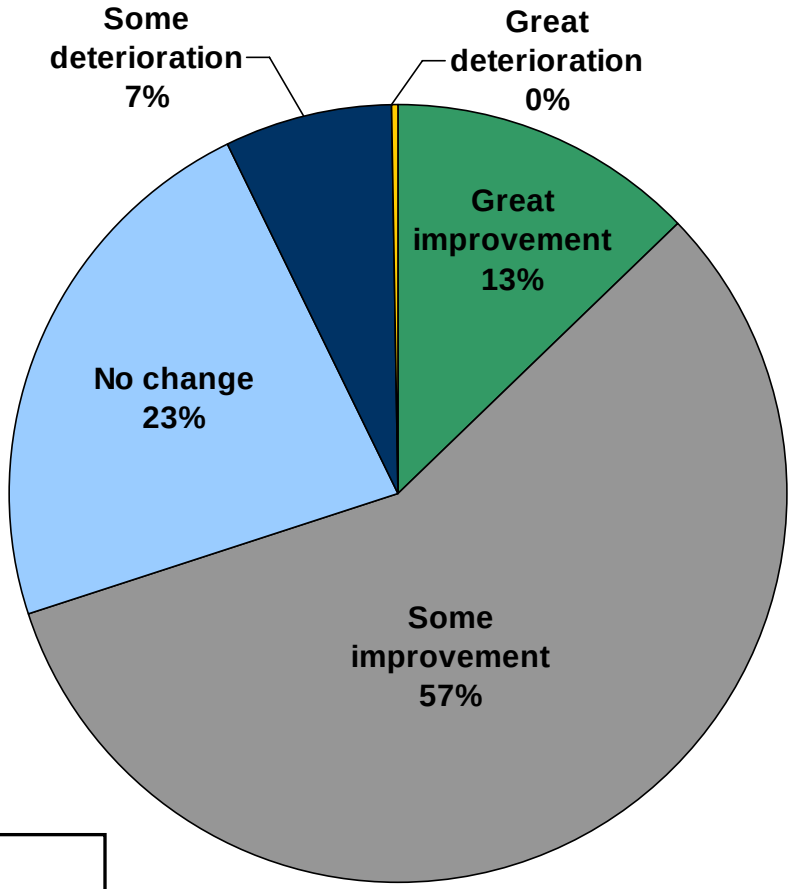
UCLA Neuroscience Strategic Plan

Seventy percent of the respondents described the reputation of UCLA neuroscience as being in the "top 10" nationally, followed by 25 percent in the "top 20". When probed about the five-year national reputation trajectory, 70 percent of interviewees thought UCLA Neuroscience would have "some" or "great" improvement.

UCLA Neuroscience - National Reputation



Next Five-Years: Likely Trajectory

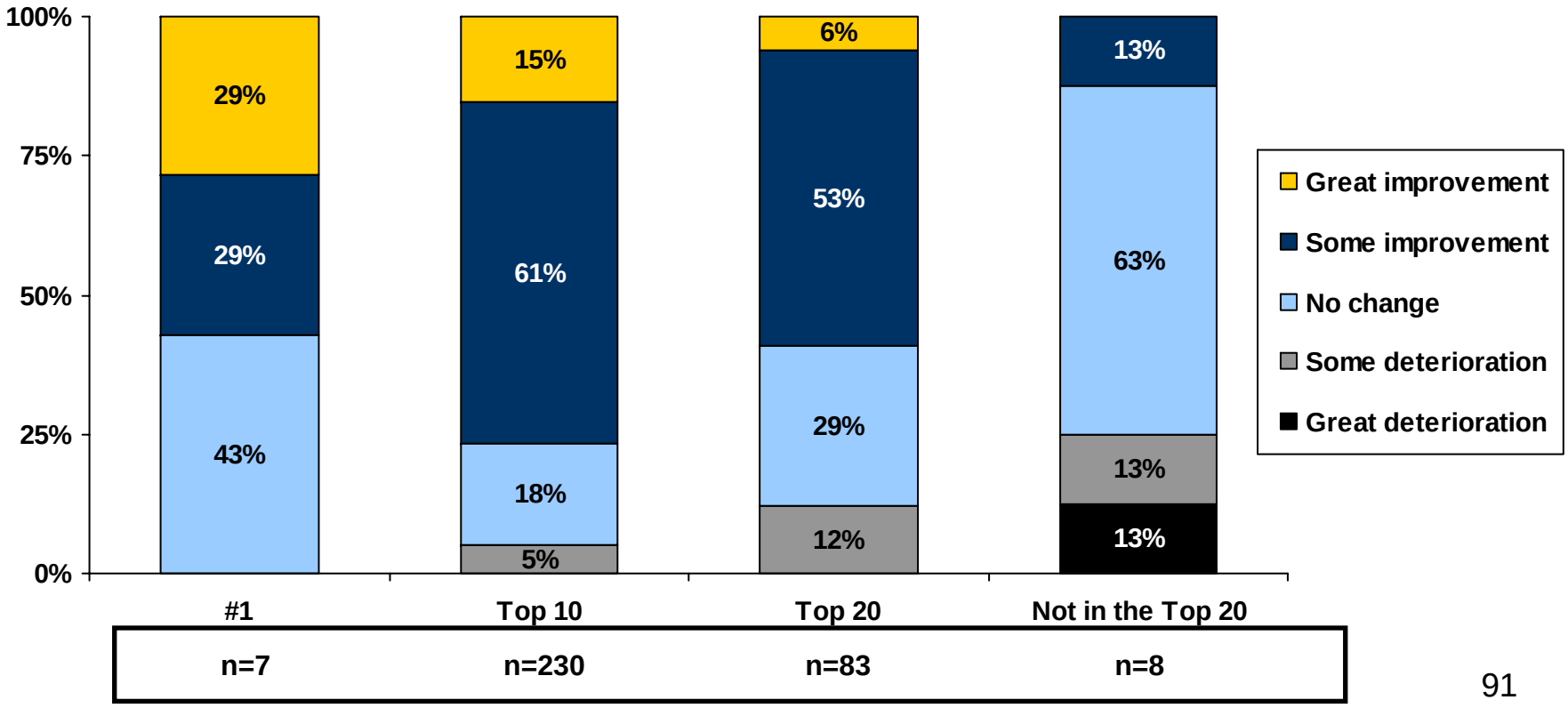


n = 328

Those who perceived UCLA neuroscience to be in the top tiers were more likely to have an optimistic outlook on the likely trajectory for the program. Additional subgroup analyses of these data can be found in the Appendices.

Likely Trajectory of UCLA Neuroscience by Perceived National Reputation

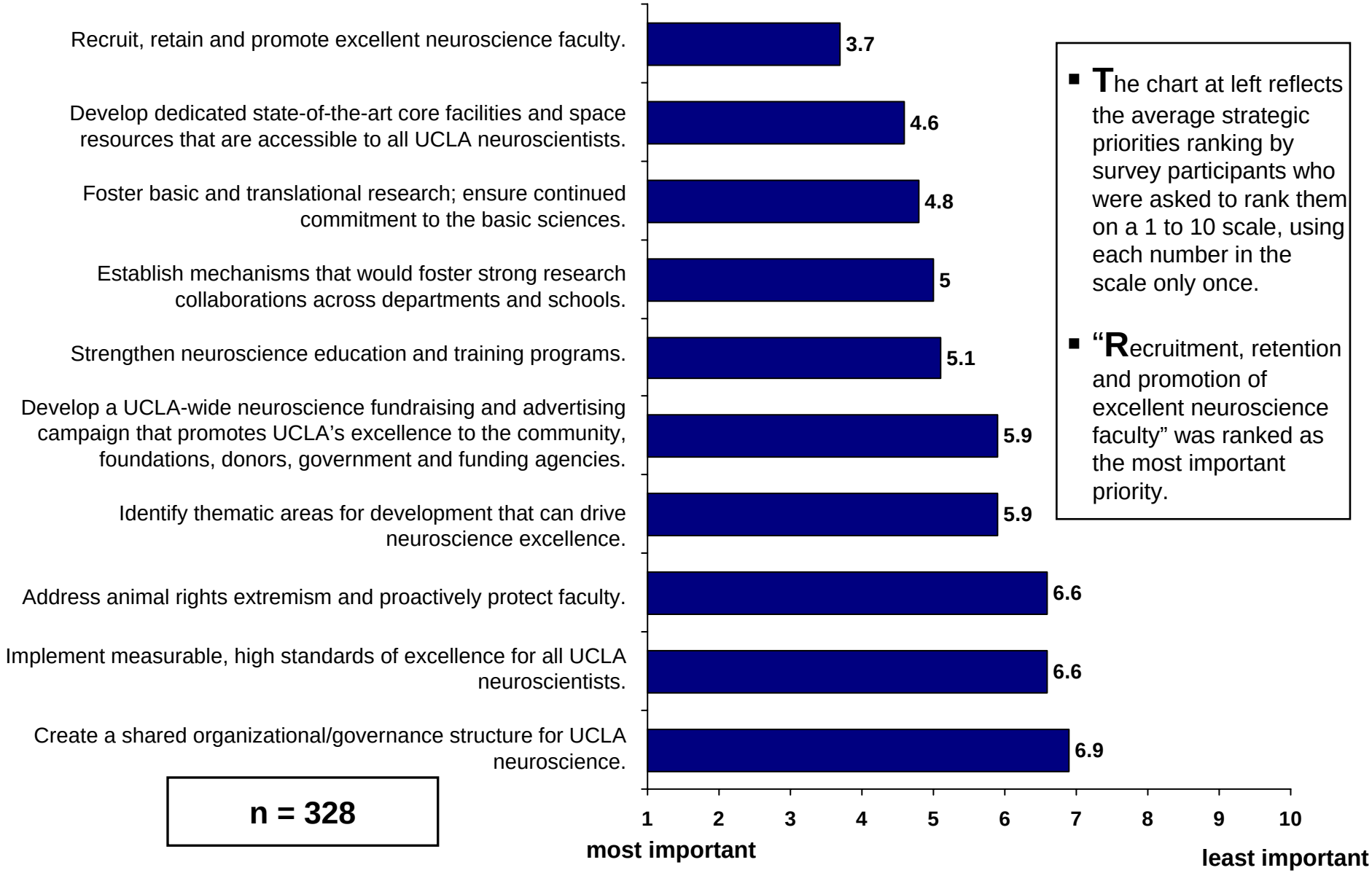
(All Respondents, n=328)



Strategic Priority Rankings

UCLA Neuroscience Strategic Plan

Total Average Ranking of Strategic Priorities



- The chart at left reflects the average strategic priorities ranking by survey participants who were asked to rank them on a 1 to 10 scale, using each number in the scale only once.
- "Recruitment, retention and promotion of excellent neuroscience faculty" was ranked as the most important priority.

n = 328

UCLA Neuroscience Strategic Plan

A comparison of Interview Summary rankings to Survey rankings for the top strategic priorities shows that the top three issues varied across studies with the exception of "accessible core facilities and space." Refer to pages 96-109 for detail by sub-group.

Interview Summary vs. Survey Strategic Priority Rankings

Survey Ranking	Interview Summary Ranking	Strategic Priorities
10	1	Create a shared organizational/governance structure for UCLA neuroscience.
6	2	Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.
2	3	Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.
4	3	Establish mechanisms that would foster strong research collaborations across departments and schools.
1	5	Recruit, retain and promote excellent neuroscience faculty.
8	6	Implement measurable, high standards of excellence for all UCLA neuroscientists.
6	7	Identify thematic areas for development that can drive neuroscience excellence.
3	8	Foster basic and translational research; ensure continued commitment to the basic sciences.
5	8	Strengthen neuroscience education and training programs.
8	10	Address animal rights extremism and proactively protect faculty.

Survey Appendices

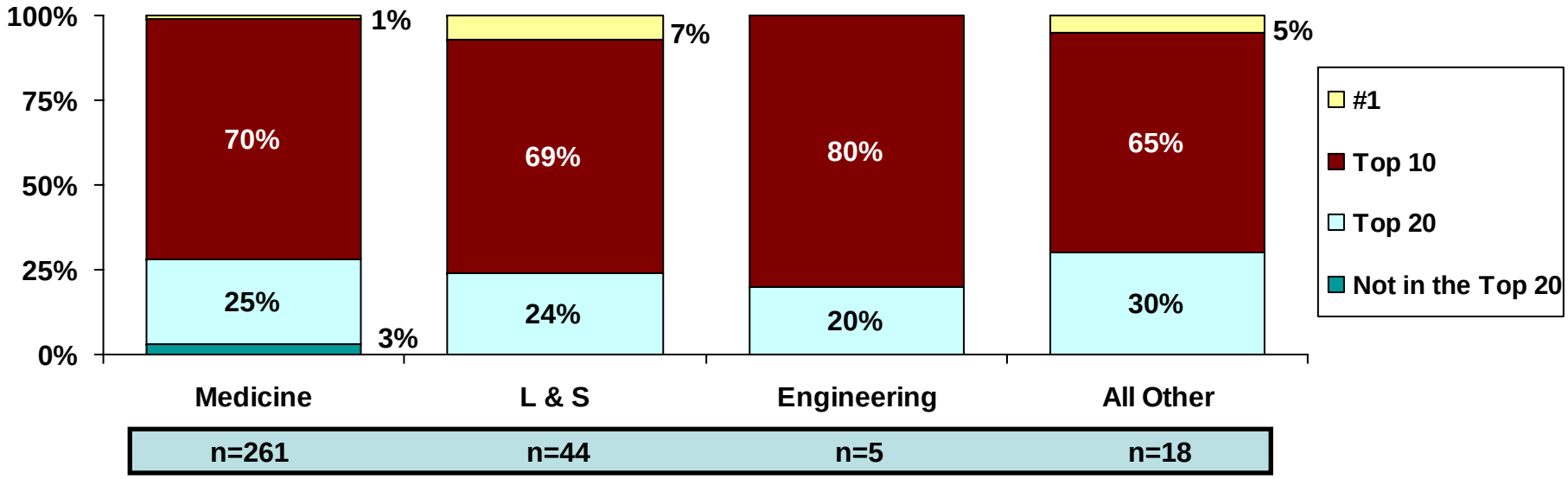
National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

Strategic Priorities Rankings – Detailed Analysis

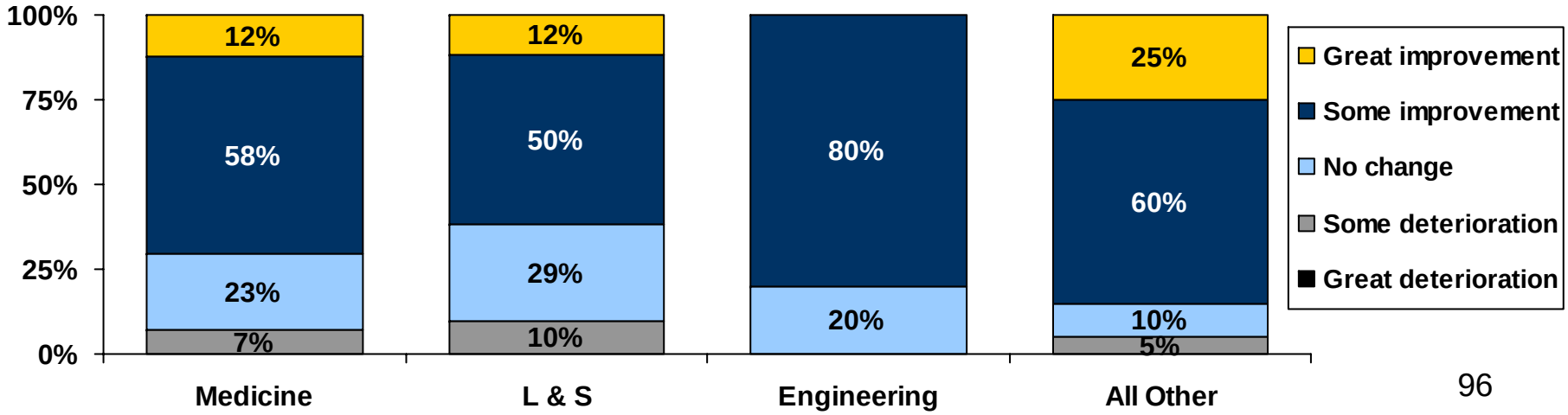
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience *by School*



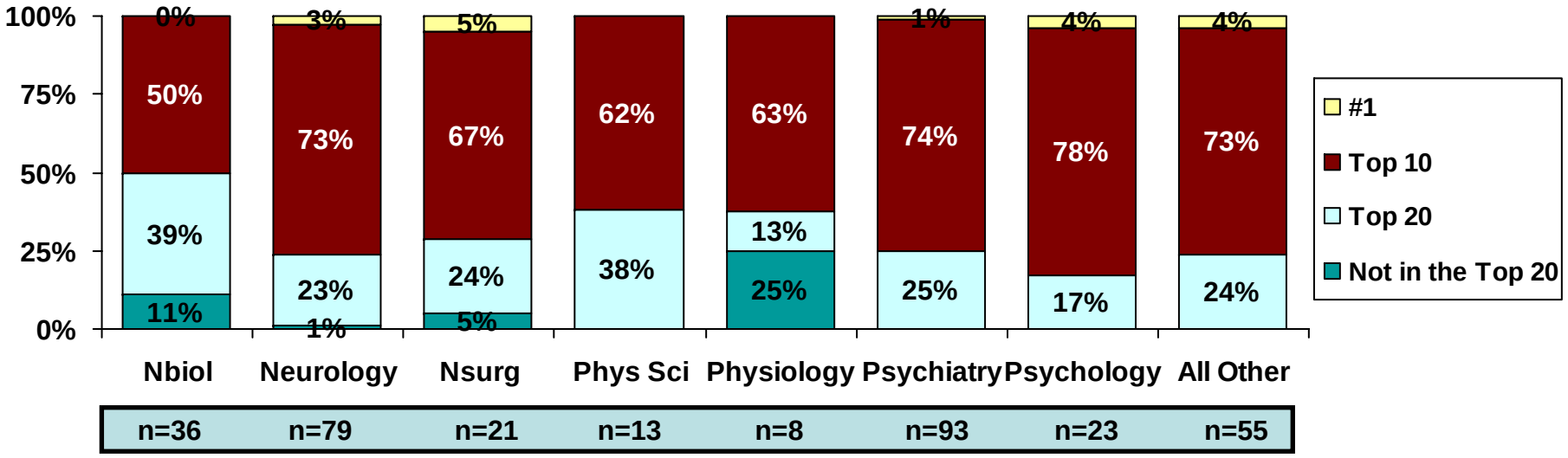
Likely Trajectory of UCLA Neuroscience *by School*



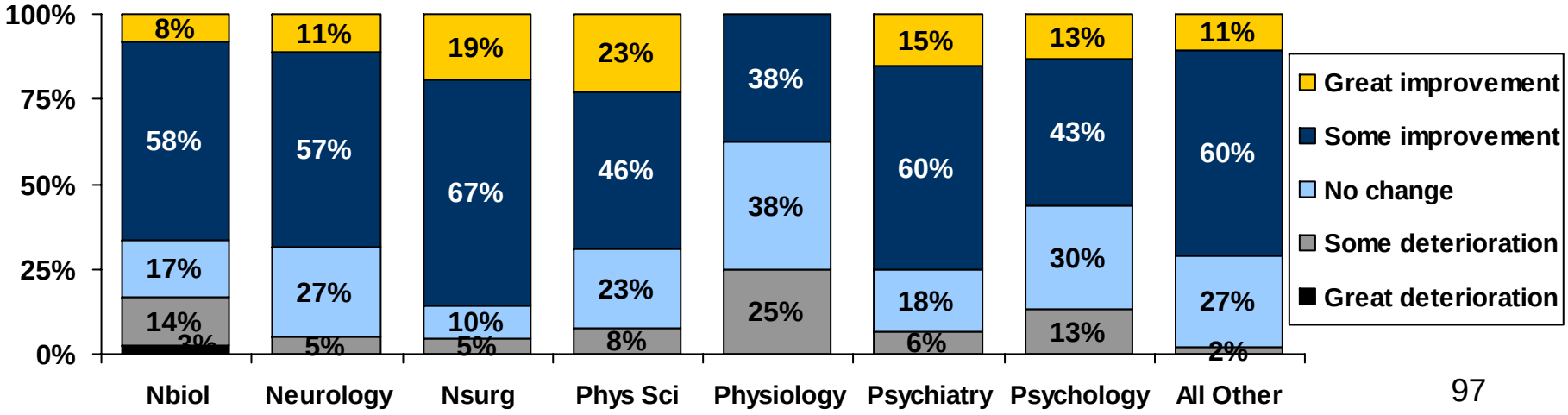
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience *by Department*



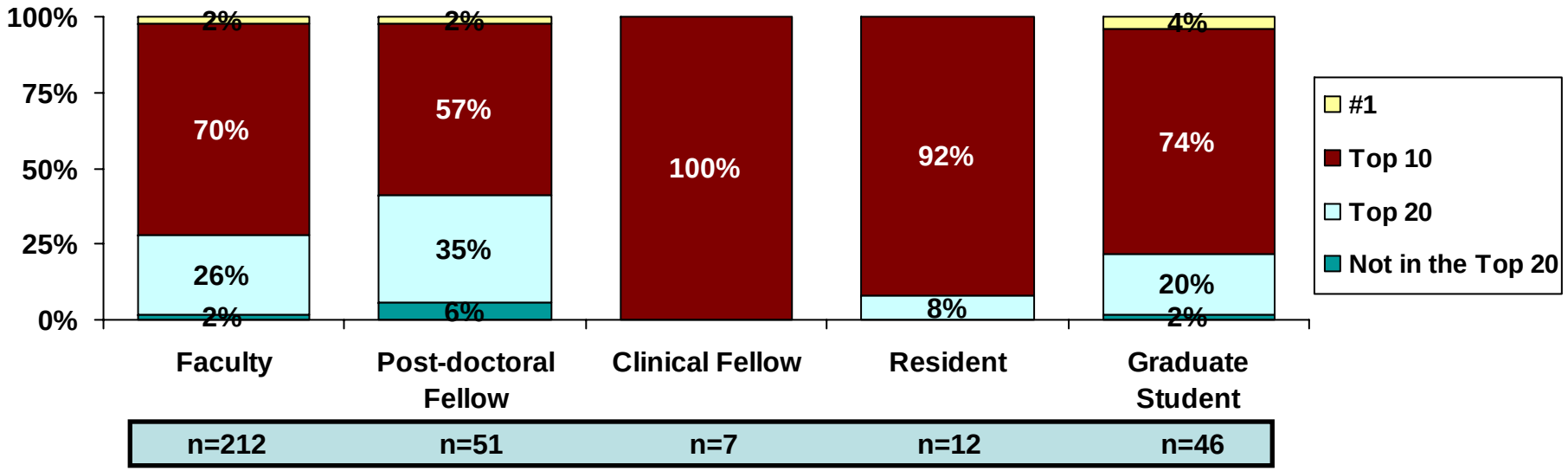
Likely Trajectory of UCLA Neuroscience *by Department*



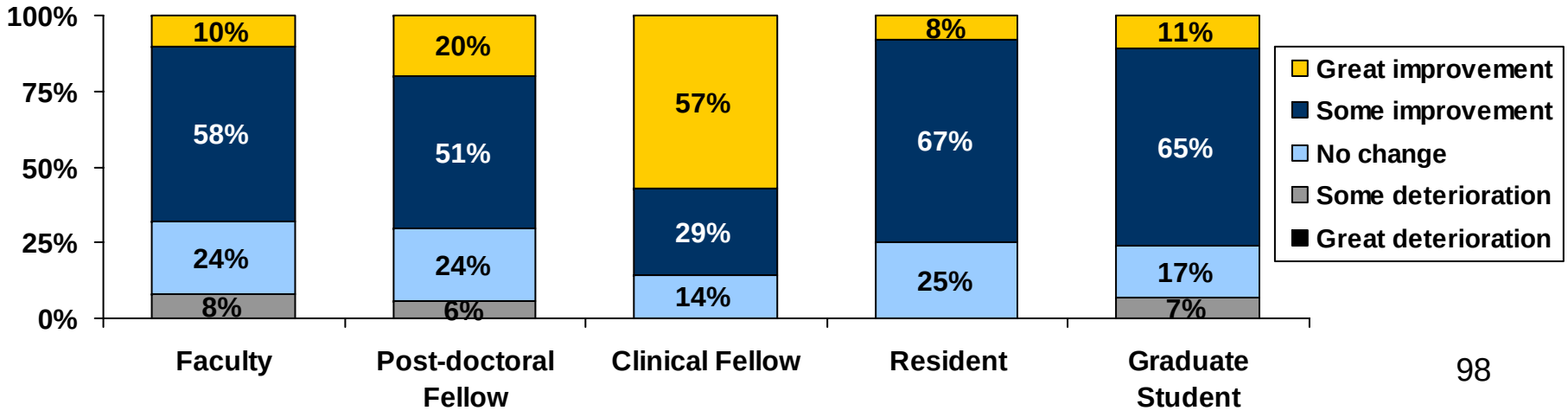
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience *by Role*



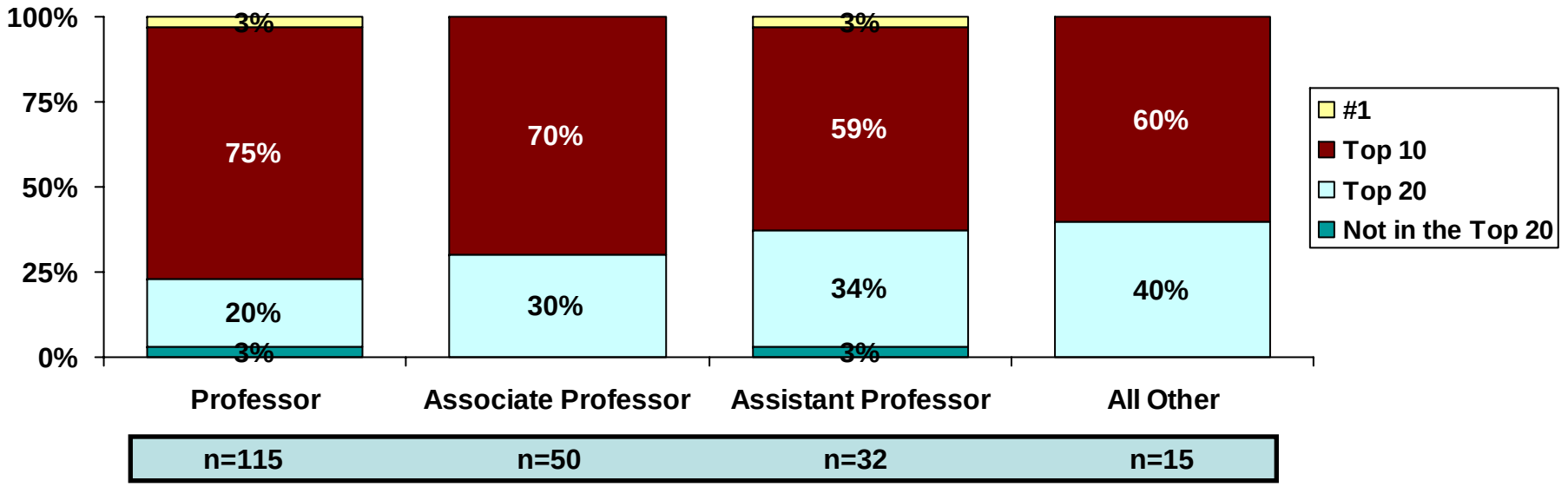
Likely Trajectory of UCLA Neuroscience *by Role*



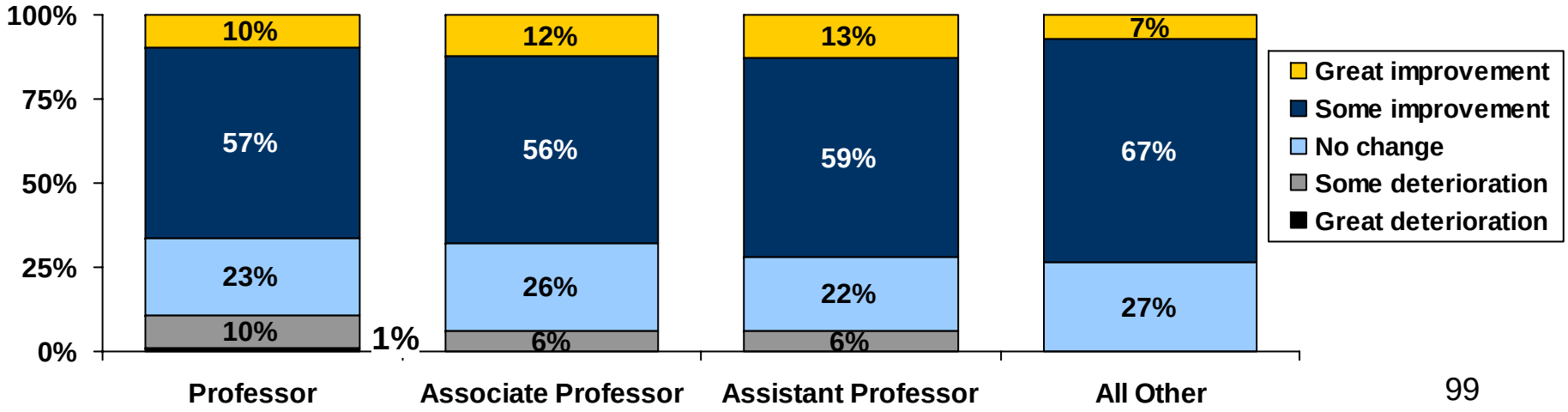
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience *by Rank*

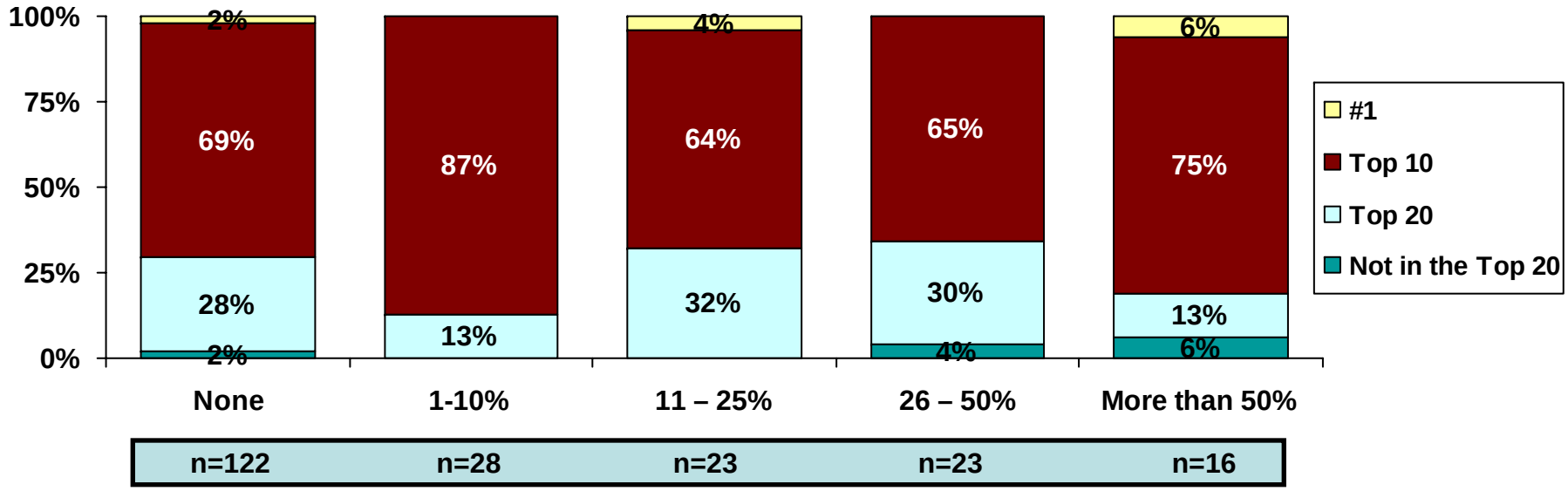


Likely Trajectory of UCLA Neuroscience *by Rank*

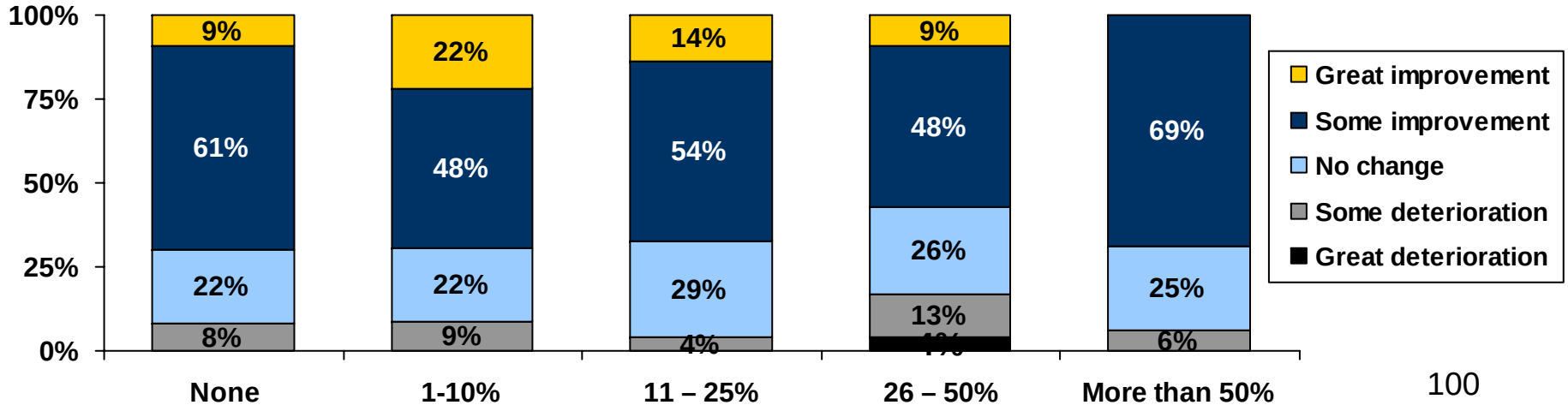


National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience by *Time Spent in Clinical Activities*



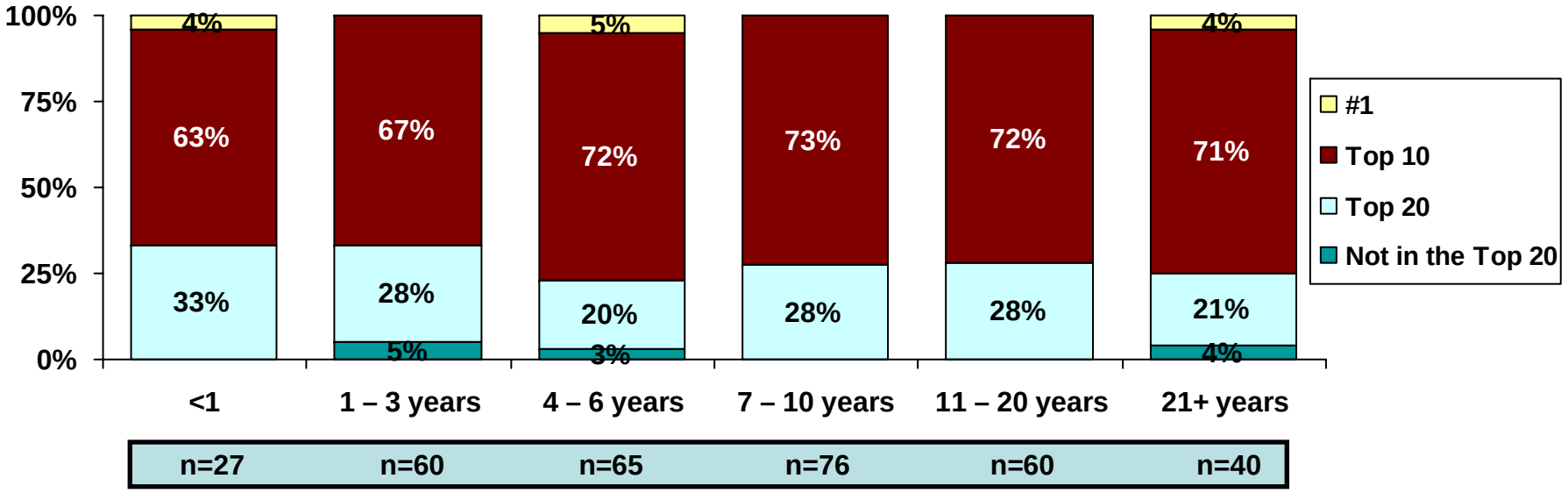
Likely Trajectory of UCLA Neuroscience by *Time Spent in Clinical Activities*



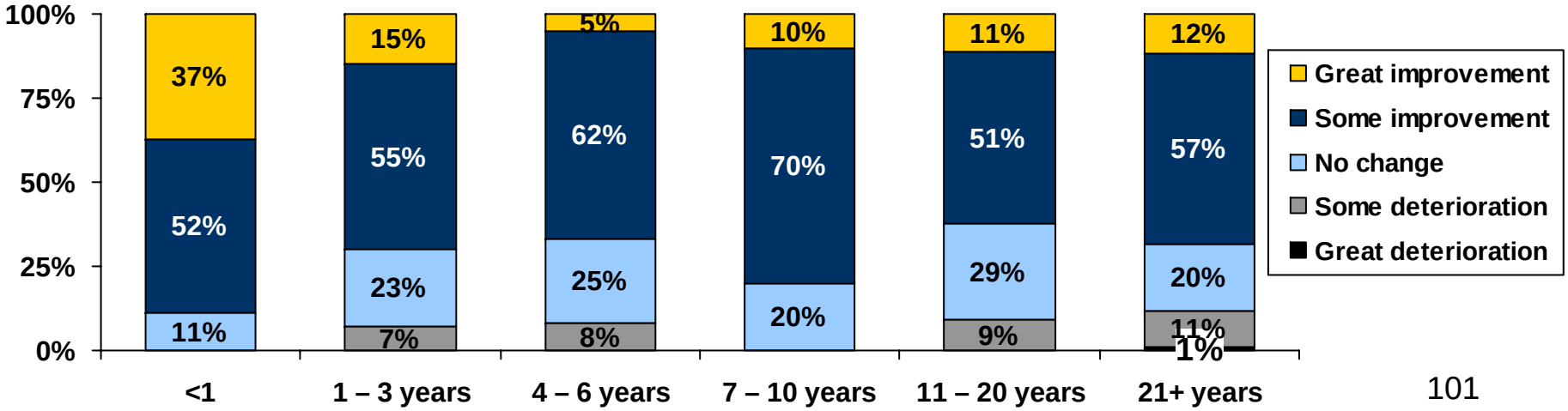
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience by *Contiguous Years at UCLA*



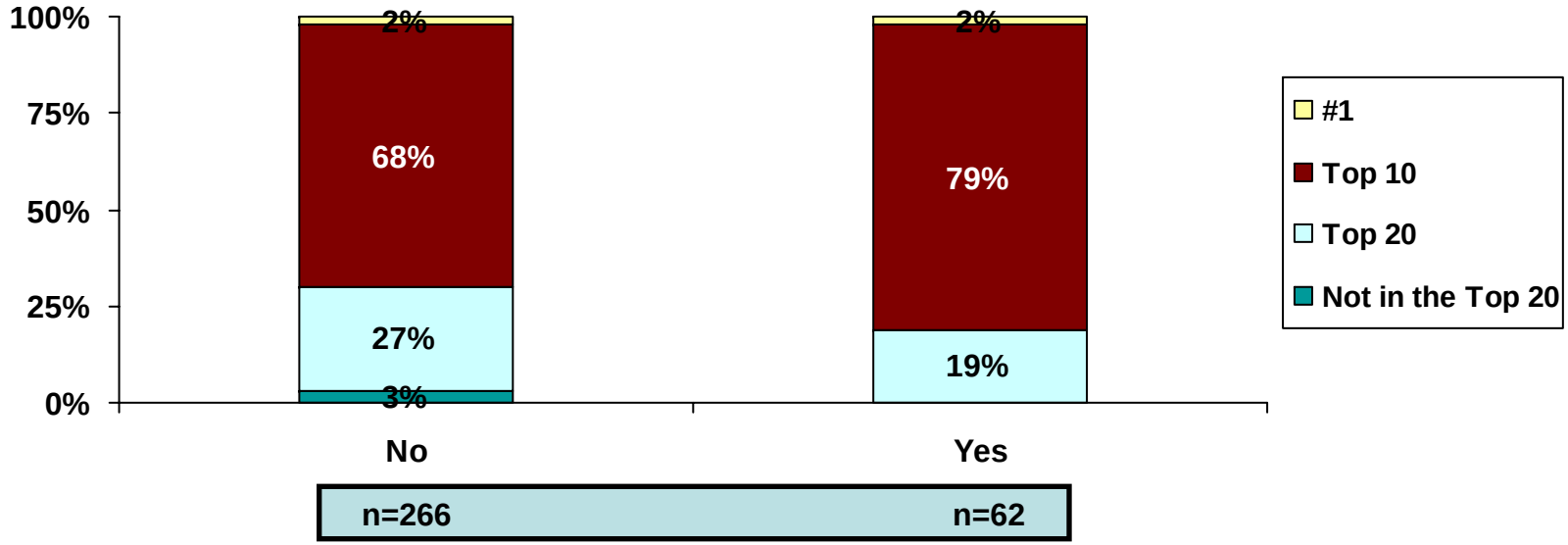
Likely Trajectory of UCLA Neuroscience by *Contiguous Years at UCLA*



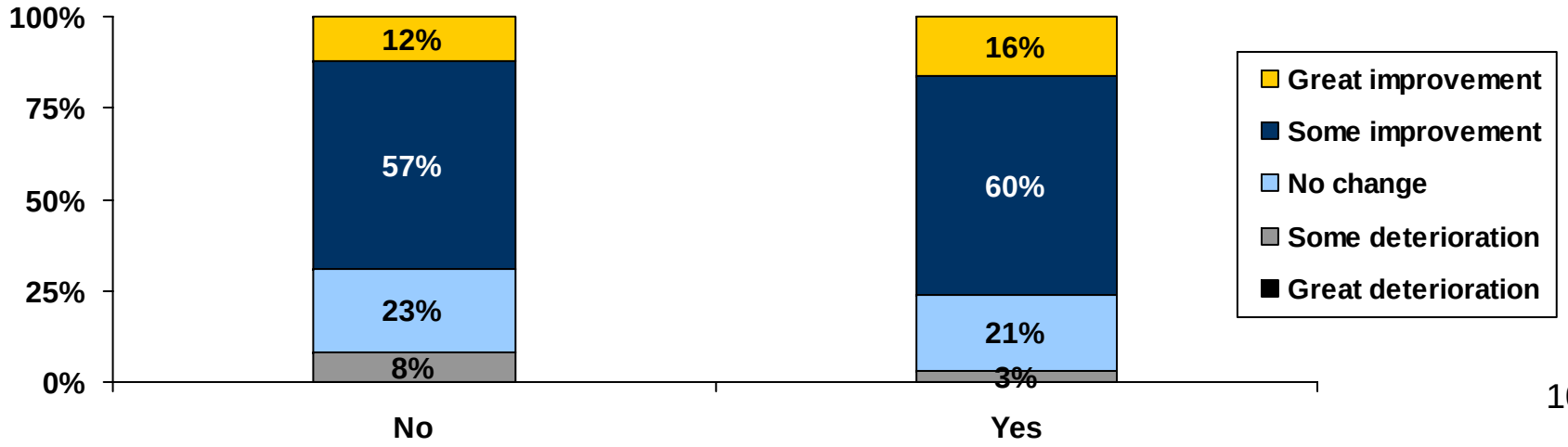
UCLA Neuroscience Strategic Plan

National Reputation & UCLA Neuroscience Trajectory – Detailed Analysis

National Reputation of UCLA Neuroscience – *UCLA Degree*



Likely Trajectory of UCLA Neuroscience – *UCLA Degree*



UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings *by School*

Strategic Priorities	Medicine (n=261)	L & S (n=42)	Engineering (n=5)	All Other (n=20)
Create a shared organizational/governance structure for UCLA neuroscience.	6.8	7.2	6.2	7.1
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	5.9	5.7	7.2	5.7
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.5	4.7	6.0	5.2
Establish mechanisms that would foster strong research collaborations across departments and schools.	5.0	5.6	1.6	4.6
Recruit, retain and promote excellent neuroscience faculty.	3.7	3.5	5.0	3.7
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.4	7.7	6.8	7.0
Identify thematic areas for development that can drive neuroscience excellence.	5.8	5.8	6.8	6.1
Strengthen neuroscience education and training programs.	5.2	4.8	6.2	4.9
Foster basic and translational research; ensure continued commitment to the basic sciences.	4.9	4.5	5.0	4.2
Address animal rights extremism and proactively protect faculty.	6.8	5.5	4.2	6.7

= #1 most important **= #2** **= #3**

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings *by Department*

Strategic Priorities	Psychiatry (n=93)	Neuro-logy (n=79)	Neuro-biology (n=36)	Psych-ology (n=23)	Neuro-surgery (n=21)	Physiol Sciences (n=13)	Physiology (n=8)	All Other (n=55)
Create a shared organizational/governance structure for UCLA neuroscience.	6.8	7.4	6.4	7.5	5.5	5.8	8.1	6.9
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	6.0	5.7	5.9	5.7	5.9	5.2	5.4	6.0
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.7	4.3	5.1	4.7	5.4	5.1	4.0	4.4
Establish mechanisms that would foster strong research collaborations across departments and schools.	4.7	4.9	5.8	5.3	4.9	5.5	4.0	5.0
Recruit, retain and promote excellent neuroscience faculty.	3.9	3.4	3.6	3.1	4.4	4.5	2.1	3.7
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.5	6.3	5.7	7.7	6.0	8.0	8.0	7.2
Identify thematic areas for development that can drive neuroscience excellence.	5.7	5.9	5.3	6.3	6.0	5.8	6.6	6.1
Strengthen neuroscience education and training programs.	4.9	5.1	5.8	4.2	5.4	5.8	7.1	5.2
Foster basic and translational research; ensure continued commitment to the basic sciences.	5.1	4.8	4.9	4.4	4.4	4.3	4.6	4.4
Address animal rights extremism and proactively protect faculty.	6.7	7.2	6.4	6.1	7.2	5.1	5.0	6.2

= #1 most important **= #2** **= #3**

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings *by Role*

Strategic Priorities	Faculty (n=212)	Post-doctoral Fellow (n=51)	Graduate Student (n=46)	Resident (n=12)	Clinical Fellow (n=7)
Create a shared organizational/governance structure for UCLA neuroscience.	7.0	6.3	6.9	6.8	8.0
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	5.5	6.9	6.2	5.3	6.1
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.5	4.7	4.9	5.5	5.0
Establish mechanisms that would foster strong research collaborations across departments and schools.	5.0	4.2	5.6	5.8	4.1
Recruit, retain and promote excellent neuroscience faculty.	3.6	4.1	3.9	3.9	1.7
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.8	6.3	6.5	5.8	5.0
Identify thematic areas for development that can drive neuroscience excellence.	6.0	5.9	5.5	4.8	6.1
Strengthen neuroscience education and training programs.	5.4	5.1	4.6	4.0	4.3
Foster basic and translational research; ensure continued commitment to the basic sciences.	4.6	4.5	5.5	5.2	6.4
Address animal rights extremism and proactively protect faculty.	6.6	7.1	5.4	7.9	8.1

= #1 most important = #2 = #3

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings by *Faculty Rank*

Strategic Priorities	Professor (n=115)	Associate Professor (n=50)	Assistant Professor (n=32)	All Other (n=15)
Create a shared organizational/governance structure for UCLA neuroscience.	7.3	6.4	6.5	7.3
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	5.8	5.2	5.5	5.1
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.7	4.4	4.1	3.9
Establish mechanisms that would foster strong research collaborations across departments and schools.	5.2	5.1	4.2	5.2
Recruit, retain and promote excellent neuroscience faculty.	3.1	3.8	4.7	4.1
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.6	7.2	7.1	6.9
Identify thematic areas for development that can drive neuroscience excellence.	5.7	6.5	6.3	5.5
Strengthen neuroscience education and training programs.	5.4	5.4	5.1	5.7
Foster basic and translational research; ensure continued commitment to the basic sciences.	4.7	4.5	4.8	3.8
Address animal rights extremism and proactively protect faculty.	6.5	6.6	6.7	7.4

= #1 most important **= #2** **= #3**

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings by *Level of Clinical Activity*

Strategic Priorities	No Clinical Activity (n=122)	1%-10% Clinical Activity (n=28)	11%-25% Clinical Activity (n=23)	26%-50% Clinical Activity (n=23)	>50% Clinical Activity (n=16)
Create a shared organizational/governance structure for UCLA neuroscience.	6.8	7.2	7.2	7.6	6.5
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	5.5	5.6	6.1	5.0	5.6
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.3	4.4	4.7	4.9	5.4
Establish mechanisms that would foster strong research collaborations across departments and schools.	5.5	4.3	3.8	4.8	5.6
Recruit, retain and promote excellent neuroscience faculty.	3.7	3.5	3.6	3.1	4.1
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.9	6.9	6.7	7.0	6.0
Identify thematic areas for development that can drive neuroscience excellence.	6.0	6.1	6.1	6.0	5.3
Strengthen neuroscience education and training programs.	5.4	6.1	4.7	5.5	4.8
Foster basic and translational research; ensure continued commitment to the basic sciences.	4.4	4.7	5.2	4.0	5.4
Address animal rights extremism and proactively protect faculty.	6.5	6.3	6.9	7.1	6.5

= #1 most important = #2 = #3

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings by *Contiguous Years with UCLA*

Strategic Priorities	<1 Year (n=27)	1-3 Years (n=60)	4-6 Years (n=65)	7-10 Years (n=76)	11-20 Years (n=60)	>20 Years (n=40)
Create a shared organizational/governance structure for UCLA neuroscience.	6.9	6.5	6.3	7.4	7.4	6.5
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	6.6	5.9	5.6	5.8	6.2	5.3
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.6	5.1	4.4	4.7	4.4	4.7
Establish mechanisms that would foster strong research collaborations across departments and schools.	4.3	4.9	5.0	5.5	4.6	5.2
Recruit, retain and promote excellent neuroscience faculty.	3.4	4.2	3.9	3.3	3.6	3.6
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.7	6.2	7.1	6.6	7.0	6.2
Identify thematic areas for development that can drive neuroscience excellence.	5.3	5.7	5.9	5.9	5.9	6.2
Strengthen neuroscience education and training programs.	5.4	4.6	5.6	5.1	4.7	5.8
Foster basic and translational research; ensure continued commitment to the basic sciences.	5.1	5.1	4.9	4.3	4.4	5.1
Address animal rights extremism and proactively protect faculty.	6.6	6.9	6.3	6.4	6.8	6.5

= #1 most important **= #2** **= #3**

UCLA Neuroscience Strategic Plan

Strategic Priorities Rankings – Detailed Analysis

Average Strategic Priority Rankings by *UCLA Degree*

Strategic Priorities	No UCLA Degree (n=266)	UCLA Degree (n=62)
Create a shared organizational/governance structure for UCLA neuroscience.	7.0	6.4
Develop a UCLA-wide neuroscience fundraising and advertising campaign that promotes UCLA's excellence.	5.8	5.9
Develop dedicated state-of-the-art core facilities and space resources that are accessible to all UCLA neuroscientists.	4.6	4.8
Establish mechanisms that would foster strong research collaborations across departments and schools.	5.0	4.9
Recruit, retain and promote excellent neuroscience faculty.	3.6	4.0
Implement measurable, high standards of excellence for all UCLA neuroscientists.	6.7	6.4
Identify thematic areas for development that can drive neuroscience excellence.	5.8	6.0
Strengthen neuroscience education and training programs.	5.1	5.4
Foster basic and translational research; ensure continued commitment to the basic sciences.	4.7	5.1
Address animal rights extremism and proactively protect faculty.	6.7	6.1

= #1 most important **= #2** **= #3**

APPENDIX C: External Benchmark Assessment

Organizational Overview

UCLA Neuroscience Strategic Plan

Participants: Schools/Interviewees

University	Interviewee
Columbia University	*Thomas Jessell, Ph.D.,* Professor, Biochemistry and Molecular Biophysics; Professor, Center for Neurobiology & Behavior
Harvard University	*Joshua Sanes, Ph.D.,* Paul J. Finnegan Family Director, Center for Brain Science; Professor of Molecular and Cellular Biology
Johns Hopkins University	*Richard Huganir, Ph.D.,* Professor and Director, Department of Neuroscience
Stanford University	*Carla Shatz, Ph.D.,* Professor of Biology and Neurobiology; Director, BioX
University of California, Los Angeles	*John Mazziotta, M.D., Ph.D.,* Chair, Department of Neurology; Pierson-Lovelace Investigator; Stark Chair in Neurology; Director, Brain Mapping Center; Associate Director, Neuropsychiatric Institute
University of California, San Diego	*Larry Squire, Ph.D.,* Distinguished Professor of Psychiatry, Neurosciences, and Psychology
University of California, San Francisco	*Louis Reichardt, Ph.D.,* Director, Neuroscience Program; Director, Program in Biological Sciences
University of Pennsylvania	*Irwin B. Levitan, Ph.D.,* David J. Mahoney Professor and Chair, Department of Neuroscience; Director, Mahoney Institute of Neurological Sciences
Washington University	*David Van Essen, Ph.D.,* Professor and Chair of Anatomy and Neurobiology; Professor of Biomedical Engineering

UCLA Neuroscience Strategic Plan

Overview of Neuroscience Institutes and Centers

Institution	Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
Columbia		**Mind, Brain & Behavior Initiative**	• **Center for Theoretical Neuroscience** • **Kavli Institute for Brain Science** • **The Lieber Center for Schizophrenia Research** • **The David Mahoney Center for Brain and Behavior Research** • **Motor Neuron Center** • **The Sackler Institute for Developmental Psychobiology** • **The Taub Institute for Research on Alzheimer's Disease and the Aging Brain**
Harvard		**Center for Brain Science (CBS)** ***(Neuroscience at Harvard is decentralized and includes groups at the medical school and affiliated hospitals. CBS is an interdepartmental center based at the college, but with members at the medical school and hospitals.)***	
Johns Hopkins		**Brain Science Institute**	• **Zanvyl Krieger Mind / Brain Institute *(collaboration: Arts & Science and Medicine)*** • **Institute for Cell Engineering *(Stem Cell Institute)***
Penn	**Penn Comprehensive Neuroscience Center**	**Mahoney Institute of Neurological Science**	
Stanford	**Stanford Institute for Neuro-Innovation & Translational (SINTN)**	**Stanford BioX** **(*University-wide interdisciplinary research program, with focus on Neuroscience ventures)***	

UCLA Neuroscience Strategic Plan

Overview of Neuroscience Institutes and Centers (cont'd)

Institution	Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
UCLA	Semel Institute for Neuroscience and Human Behavior	Brain Research Institute	
UCSD		The Kavli Institute for Brain and Mind	• Burnham Institute - Del E. Webb Neuroscience, Aging and Stem Cell Research Center • Salk Institute • Temporal Dynamics of Learning Center • Center for Academic Research & Training in Anthropogeny
UCSF		W. Boyer Program in Biological Sciences (PIBS)	• Neuroscience Graduate Program • The Ernest Gallo Clinic and Research Center • Gladstone Institute of Neurological Disease • W.M. Keck Foundation Center for Integrative Neuroscience • Sloan-Swartz Center for Theoretical Neurobiology
Wash U		BioMed 21 *(University-wide Biosciences Initiative with two Neuroscience focused Centers)* –Center for the Investigation of Membrane Excitability Disorders –Hope Center Program on Protein Folding and Neurodegeneration	

UCLA Neuroscience Strategic Plan

COLUMBIA: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
	Mind, Brain & Behavior Initiative *(Founded in 2004)* ▪ ***The Center for Neuroscience Initiatives*** *is an organizing arm dedicated to the development, implementation and coordination of new neuroscience related initiatives at Columbia University.* ▪ ***The Jerome L. Greene Science Center****, a new scientific research and teaching facility, will serve as the intellectual home for Columbia's expanding initiative in mind, brain and behavior.* • *The Center will be located at a third campus being developed by Columbia. The department of Neuroscience will be housed in this new facility.* • *The Center will include laboratories in which Columbia scientists will explore the causal relationship between gene function, brain wiring and behavior.*	▪ *A new* ***Center for Theoretical Neuroscience*** *has been established at Columbia University in New York City as part of the Swartz Program in Theoretical Neuroscience. The center is expected to support long-term visitors, research staff and faculty, working to bring their varied theoretical approaches together.* ▪ *Directed by Eric Kandel, the* ***Kavli Institute for Brain Science*** *at Columbia University will emphasize neural circuitry and will investigate, for example, how various genetic components involved in generating neural plasticity are organized, coordinated and expressed within the complex geometry of a neuron and how the activity of individual nerve cells is linked to the neural circuits that mediate complex behaviors.* ▪ ***The Lieber Center for Schizophrenia Research*** *strives to answer a wide range of questions about the nature and causes of schizophrenia and its treatment through a multi-faceted research program.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

COLUMBIA: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
		▪ ***The David Mahoney Center for Brain and Behavior Research*** *will bridge molecular neuroscience with cognitive systems that underlie complex human behavior. Housed on the fifth floor of the New York State Psychiatric Institute's Annex on West 168th Street, the programs will include a postdoctoral training program as well as a professorship in brain and behavior research.* ▪ *Columbia's* ***Motor Neuron Center*** *will transform our understanding of human health. For the first time, brilliant scientific minds are working together in a common approach to currently incurable motor neuron diseases: spinal muscular atrophy (SMA) in children and amyotrophic lateral sclerosis (ALS; Lou Gehrig's disease) in adults. New discoveries in the field of motor neuron biology will fuel the search for effective therapy for patients.* ▪ ***The Sackler Institute for Developmental Psychobiology*** *brings together Columbia scientists from different disciplines whose research interests are in the processes of early development and how these relate to the etiology and treatment of psychiatric illness.* ▪ ***The Taub Institute for Research on Alzheimer's Disease and the Aging Brain*** *is the nucleus of a dynamic, multidisciplinary endeavor. The institute brings together Columbia university researchers and clinicians to uncover the causes of Alzheimer's, Parkinson's and other age-related brain diseases and discover ways to prevent and cure these diseases.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

HARVARD: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes

Center for Brain Science (CBS)
(Founded 2004)

- *Researchers in the **Center for Brain Science** (CBS) aim to understand neural circuits. We are learning the structure and function of neural circuits and discovering how these circuits change during development and aging. We are investigating how neural circuits govern behavior and how they vary between individuals. We are deepening our understanding of neurological and psychiatric disorders, and their therapies. To accomplish this mission, CBS also brings neuroscientists together with physical scientists and engineers to develop new tools for neuroscience. The Center for Brain Science has strong links throughout the neuroscience community at Harvard University. Members are drawn from the Faculty of Arts and Sciences, the Department of Neurobiology at the Harvard Medical School, the School of Engineering, and the Harvard-affiliated hospitals. The Center for Brain Science is a primary tenant of the Northwest Building, on Oxford Street in Cambridge.*
- **Prior to founding of CBS, neuroscience at Harvard was focused at the Medical School and hospitals. It was felt that there should be a bigger neuroscience presence on the main campus given a big interest in neuroscience overall at Harvard University.**

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

JOHNS HOPKINS: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
	Brain Science Institute (BSI) ***(Founded circa 2001)***	**The Zanvyl Krieger Mind/Brain Institute**
	▪ *Started with a generous gift from an anonymous donor. The Johns Hopkins BSI brings together both basic and clinical neuroscientists from across the Johns Hopkins campuses to help unify the brain sciences at Johns Hopkins University. In planning for the BSI we all learned surprising facts about who we are. We represent one of the largest and most diverse groups in the University. We are scattered within at least 17 different departments and are geographically widely dispersed. Campus wide, more than 540 faculty members are studying neurosciences, and there is over $120M in research support annually. Neuroscience researchers are in many schools throughout the Institution, including the School of Medicine, the Zanvyl Krieger School of Arts and Sciences, the Whiting School of Engineering, the Bloomberg School of Public Health, the Applied Physics Laboratory, and the School of Education.*	• *Founded in 1990 under the leadership of Dr. Guy McKhann and with a generous gift from Zanvyl Krieger. It is an interdivisional institute involving the Krieger School of Arts and Sciences and the School of Medicine. Its scientific aim of investigating the neural mechanisms of higher mental function. It has played an important role in the establishment of an undergraduate neuroscience major, which now has the third largest enrollment in the School of Arts and Sciences.*
	▪ **The Institute awards approximately seven grants annually; grants are for two to three years at $300,000 per year.**	
	▪ **The Institute is considering recruitment of faculty and development of a small administrative core.**	

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

JOHNS HOPKINS: How Neuroscience is Organized (cont'd)

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
		Institute for Stem Cell Engineering (ICE) ▪ *NeuroICE is one of four basic science programs in the Johns Hopkins University School of Medicine's Institute for Cell Engineering (ICE). The program was established in 2002, with Drs. Ted M. Dawson and Valina L. Dawson as its founding Directors.* ▪ *NeuroICE is an international leader in neuroregeneration and repair research and training. The seven faculty in the Program lead programs in a broad range of research topics. Our areas of emphasis include: neuroregeneration, neuronal cell death and survival, apoptosis, cell fate specification, embryonic and adult stem cells, synapse formation, axonal and dendritic targeting, neuronal development, gene expression and the molecular biology of Parkinson's disease, stroke and vision.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

PENN: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
Penn Comprehensive Neuroscience Center (Penn CNC) ***(Founded 2006)***	**Mahoney Institute of Neurological Science** ***(Founded 1953)***	
▪ *The Penn CNC promotes collaborations among clinical specialists, basic science and clinical researchers, and the educators who train the future generations of neuroscience physicians and scientists. The Penn CNC supports the practice of translational medicine in which ground-breaking research is moved from the laboratory into clinical trials and, ultimately, into clinical practice to benefit patients.*	▪ *With 182 faculty from 32 departments and six schools, including Arts and Sciences, Dental Medicine, Engineering and Applied Sciences, Medicine, Nursing, and Veterinary Medicine, the Institute provides a fertile environment for interdisciplinary collaboration aimed at understanding the brain and diseases of the brain.*	
▪ **Penn CNC is comprised of clinical and basic science faculty from neurology, neurosurgery, neuroscience, and psychiatry. It automatically includes faculty in these four departments and does not have formal membership criteria to join. However, not all of these faculty members are actively involved in research.**	▪ *Scientists at the Mahoney Institute focus on cellular and molecular aspects of the brain; development, regeneration and plasticity; systems neuroscience; behavior and cognition; the pathology of brain disease; and computational neuroscience.*	
▪ **Penn CNC is co-directed by chair of neurology and an HHMI investigator (basic scientist) in the department of Neuroscience. Although the Center is run by the School of Medicine, the Health System plays an active role in its management.**		

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

STANFORD: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes

The Stanford Institute for Neuro-Innovation & Translational Neurosciences (SINTN)
(Founded 2004)

- *The Stanford Institute for Neuro-Innovation & Translational Neurosciences advances the wellbeing of adults and children worldwide through basic and clinical research into the underlying biology of perception, memory, movement, emotion and other aspects of human consciousness and cognition.*
- *With more than 150 faculty participants from across Stanford University, including the Schools of Medicine, Humanities and Sciences, Engineering, Law and Business, the institute focuses the university's sweeping expertise on the most critical questions in neuroscience today.*

Stanford Bio-X
(Founded 1998)

- *In May of 1998 a group of Stanford faculty, led by James Spudich, organized a grass roots effort to initiate a bold enterprise, known informally as Bio-X, to facilitate interdisciplinary research and teaching in the areas of bioengineering, biomedicine and biosciences. The program operates across the Schools of Humanities and Sciences, Engineering, Medicine, Earth Sciences and the School of Law.*
- **Bio-X offers grants for interdisciplinary research and recently launched a more expansive program known as Bio-X Ventures; the first Bio-Ventures grants will be in Neuroscience**.
- *The first in the series of Bio-X Ventures "Bio-X NeuroVentures", will incubate exceptionally creative ideas that have great potential for unlocking the secrets of the brain. Initially, researchers will work to rapidly advance optogenetic techniques for exciting or suppressing nerve cells by shining light on them. This promises to be a powerful tool for understanding and mapping the neural circuits underlying intelligent behavior, and potentially for repairing damaged nervous systems. In addition, Bio-X NeuroVentures will foster conversations between faculty from multiple fields to identify particularly promising new approaches to interdisciplinary brain research. Bio-X NeuroVentures will permit researchers to immediately pursue the most promising of these new*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

UCLA: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
Semel Institute for Neuroscience and Human Behavior ***(Established 2004)*** ▪ *The Semel Institute is a unique organization that hosts research into modern behavioral neuroscience, social policy and human culture. The bulk of this research is within its Research, Integrative and Clinical Centers, although the Institute also supports initiatives in clinical care at the UCLA Resnick Neuropsychiatric Hospital. Whilst a large number of researchers within the Semel Institute are drawn from within the Department of Psychiatry and Biobehavioral Sciences, the diversity of projects integrates researchers from departments and divisions of: Anthropology; Chemistry; Genetics; Neurobiology; Neurology; Neurosurgery; Neuropathology; Pediatrics; Pharmacology; and, Psychology.*	**Brain Research Institute (BRI)** ***(Founded 1959)*** ▪ *The BRI has a rich past serving as an umbrella institute for neuroscience activities at UCLA. The Institute began its life in 1959 and has three major goals related to maintaining excellence in neuroscience education, research and outreach programs (specific functions can be found on the following page). The Institute has nearly 300 academic senate faculty members from 26 different departments throughout the UCLA community and includes members from the David Geffen School of Medicine, the College of Letters and Science, the School of Public Heath, The Henry Samueli School of Engineering and Applied Science, the School of Nursing, and the School of Dentistry. To execute the mission, the BRI functions explicitly as the interdisciplinary and non-departmental voice of the neuroscience community.*	

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

UCSD: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
	The Kavli Institute for Brain and Mind (KIBM) *(Founded 2004)* ▪ *The Kavli Institute for Brain and Mind (KIBM) at UCSD is a virtual environment unhampered by disciplinary boundaries, providing scientists with opportunities for effective interdisciplinary integration of research and knowledge. KIBM will transcend traditional disciplinary barriers to foster new discourse among top scientists, accelerating discoveries about the connections between mechanism and behavior.* ▪ *KIBM's mission is to support research that furthers our understanding of the origins, evolution and mechanisms of human cognition, from the brain's physical and biochemical machinery to the experiences and behaviors called the mind. KIBM will leverage UC San Diego's preeminence in such fields as neuroscience, biology, cognitive science, psychology and medicine, along with the extensive resources of the broader La Jolla scientific community, to extend its position as the pacesetter in brain-mind research and education, and as a vibrant hub for dissemination of its discoveries to advance science and benefit humankind.*	**Temporal Dynamics of Learning Center, an NSF Learning Center** ▪ *The Temporal Dynamics of Learning Center (TDLC) aims to achieve an integrated understanding of the role of time and timing in learning, across multiple scales, brain systems, and social systems.* ▪ *Researchers in machine learning, psychology, cognitive science, neuroscience, molecular genetics, biophysics, mathematics, and education focus on each set of issues from multiple perspectives, and synchronize their research by running parallel experiments in animals, people, and theoretical models.* **The Center for Academic Research and Training in Anthropogeny* (CARTA)** ▪ *CARTA was established in a collaboration between faculty at UC San Diego and at the Salk Institute for Biological Studies, along with some interested scientists at other institutions. CARTA was established as a UC San Diego recognized Organized Research Unit (ORU) in January 2008.* ▪ *As the word anthropogeny implies, the primary goal of CARTA is to "explore and explain the origins of the human phenomenon".*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

UCSD: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes

The Burnham Institute
Del E. Webb Neuroscience, Aging and Stem Cell Research Center

- *The Del E. Webb Neuroscience, Aging and Stem Cell Research Center was **established in 1999 with the aim to develop novel strategies for either protecting existing cells or replacing cells lost due to disease**. The research programs in this center focus on:*
  - *Neurodegenerative Disease Research*
  - *Stem Cells & Regenerative Medicine*
  - *Development & Aging*

Salk Institute

- *The Salk Institute conducts its biological research under the guidance of 57 faculty investigators, employing a scientific staff of more than 850, including visiting scientists, postdoctoral fellows, and graduate students.*
- *Major areas of study focus within three areas: Molecular Biology and Genetics; Neurosciences; and Plant Biology. Knowledge acquired in Salk laboratories provides new understanding and potential new therapies and treatments for a range of diseases-from cancer to AIDS, from Alzheimer's disease to cardiovascular disorders, from anomalies of the brain to birth defects. Studies in plant biology at the Salk may one day help improve the quality and quantity of the world's food supply.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

UCSF: How Neuroscience is Organized

Centralized Within the School of Medicine

Centralized Within the University

Other – Related Centers/Institutes

W. Boyer Program in Biological Sciences (PIBS)

- *UCSF offers a rich variety of research opportunities in the biological sciences encompassing multiple different disciplines and departments. The graduate faculty at UCSF created the Herbert W. Boyer Program in Biological Sciences (PIBS) in order to give students access to the broadest possible range of research and to encourage interactions among faculty and students in different disciplines.*
- *PIBS has allowed the creation of interdisciplinary graduate curricula rather than limiting students to studies in conventional departments.* ***PIBS currently consists of five distinct programs offering the Ph.D. degree: Biophysics, Immunology, Neuroscience, Chemistry and Chemical Biology, and the Tetrad program composed of Biochemistry and Molecular Biology, Cell Biology, Developmental Biology, and Genetics; and one post graduate program - Molecular Medicine.***

Source: Italicized text from websites, non-italicized text from interviews.

Neuroscience Graduate Program

- Neuroscience Graduate Program sponsors seminar series, annual retreat for all UCSF neuroscientists.
- At UCSF the graduate programs have taken responsibility for the vast majority of intellectual activities that historically were sponsored by basic science departments, such as seminar series, retreats, graduate education, etc. Responsibility for intellectual activities associated with clinical research and training remains largely with departments.

The Ernest Gallo Clinic and Research Center

- *The Ernest Gallo Clinic and Research Center (Gallo Center) at the University of California, San Francisco (UCSF) was established in 1980 to* ***study basic neuroscience and the effects of alcohol and drugs of abuse on the brain****. It is the only center studying alcoholism in the United States that is based in a department of neurology. Since its inception, the Gallo Center has grown to a staff of over 170 and occupies nearly 88,00 square feet of newly constructed space in Emeryville, California. The Gallo Center has major neuroscience laboratories in cell biology, molecular biology, biochemistry, pharmacology, neurophysiology, behavioral pharmacology and physiology, and invertebrate, mouse and human genetics.*

UCLA Neuroscience Strategic Plan

UCSF: How Neuroscience is Organized (cont'd)

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
		Gladstone Institute of Neurological Disease ▪ ***The Gladstone Institute of Neurological Disease (GIND) uses basic scientific approaches to study major disorders of the nervous system, such as Alzheimer's disease, Parkinson's disease, Huntington's disease, mental retardation, multiple sclerosis and stroke****. Research is directed at advancing our understanding of the nervous system to the point where rational strategies can be developed to better treat and prevent these devastating conditions. Throughout the history of neuroscience, the investigation of neurological conditions has catalyzed, often driven, neuroscientific discovery. Therefore, in many of our studies we also explore what neurological impairments can teach us about normal neural functions. Closely linked to these goals is the Institute's dedication to training in disease-related neuroscience at all levels of education.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

UCSF: How Neuroscience is Organized (cont'd)

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes
		W.M. Keck Foundation Center for Integrative Neuroscience ▪ *The W.M. Keck Foundation Center for Integrative Neuroscience was established at UC San Francisco in 1990. Within the Keck Center, more than 80 scientists in 11 laboratories are discovering how we see and hear, how we move our limbs, why we feel pain, how we learn and remember, and how we speak and understand language. Research is focused on questions of how the nerve cells in brains work together to generate human behaviors, rather than on the operation of the nerve cells themselves.* **Sloan-Swartz Center for Theoretical Neurobiology** ▪ *The Sloan-Swartz Center for Theoretical Neurobiology at UC San Francisco was formed in 1994 and funded by the Alfred P. Sloan Foundation and the Swartz Foundation with the goal of providing an environment where young scientists with strong backgrounds in theory would receive training in experimental neuroscience research.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

WASHINGTON UNIVERSITY IN ST. LOUIS: How Neuroscience is Organized

Centralized Within the School of Medicine	Centralized Within the University	Other – Related Centers/Institutes

BioMed 21 *(Founded 2003)*

- ***BioMed 21 reorganizes the life sciences at Washington University*** *to address the biggest questions about disease: their origins, how they affect us and how we can cure them.* ***It will reshape University culture to rapidly convert the knowledge of the genetic blueprint of human beings into effective, individualized treatments.***
- *It* ***aims to collect and dedicate resources****, including NIH support and gifts from friends and supporters.*
- *It* ***defines new spaces to house promising research and educational programs.***
- *It* ***establishes five new Interdisciplinary Research Centers*** *to be housed in the BJC Institute of Health at Washington University (on the medical center campus); two of the five centers are neuroscience-related and highlighted below. Both will be housed in the new BJC Institute of Health building.*
  - ***The Center for the Investigation of Membrane Excitability Disorders (CIMED)*** *focuses on gaining a better understanding of ion channels to aid in the development of new medical approaches for these kinds of disorders.*
  - *Combining clinical expertise with advanced tools in biochemistry, electrophysiology, imaging and genomics, CIMED will be in a position to make important advances in understanding disease mechanisms and in translating these insights into improved treatments and therapeutics.*
  - ***The Hope Center Program on Protein Misfolding and Neurodegeneration*** *aims to find diagnostic tools and effective treatments for neurodegenerative diseases by investigating their underlying cause. This new interdisciplinary program is part of the larger Hope Center for Neurological Disorders.*
  - *The Hope Center Program on Protein Misfolding and Neurodegeneration is part of the larger Hope Center for Neurological Disorders, which is dedicated to improving the lives of people living with neurological disorders.*

Source: Italicized text from websites, non-italicized text from interviews.

UCLA Neuroscience Strategic Plan

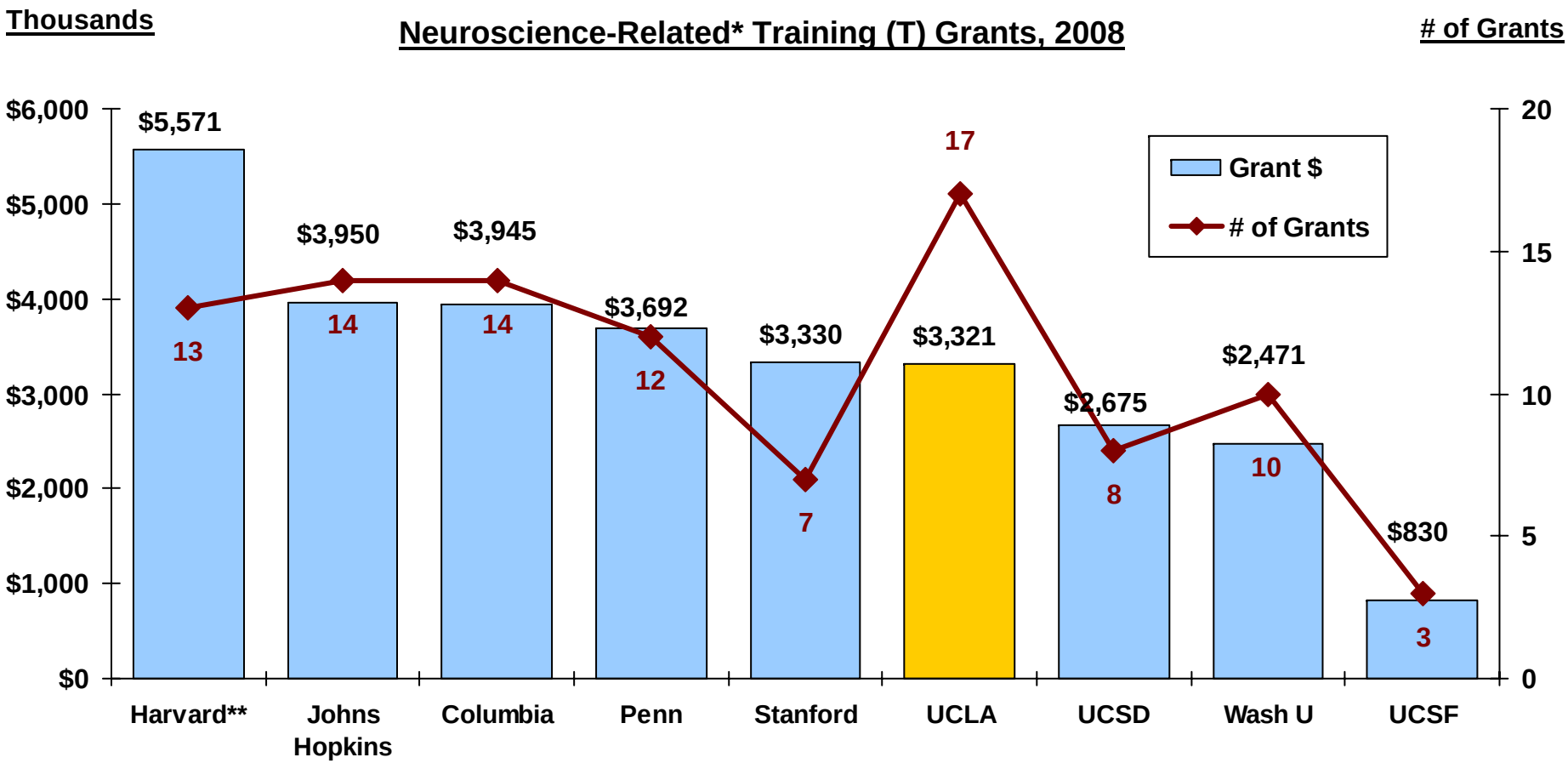
Training Programs – Graduate Programs

Institution	Graduate Training Program Name	Institutional Home
Columbia	Colombia Doctoral Program in Neurobiology and Behavior	Center for Neurobiology and Behavior Graduate School of Arts and Sciences
Harvard	Program in Neuroscience	University-side but administratively housed in the Division of Medical Sciences, Graduate School of Arts and Sciences
Johns Hopkins	Neuroscience Training Program	Solomon H. Snyder Department of Neuroscience School of Medicine
Penn	Neuroscience Graduate Group	The Mahoney Institute of Neurological Sciences
Stanford	Stanford Neuroscience PhD	SINTN School of Medicine
UCLA	Neuroscience Interdepartmental Program (IDP)	Brain Research Institute
UCSD	Neurosciences Graduate Program	Interdepartmental Program
UCSF	Neuroscience Graduate Program at UCSF Neurobiology	Herbert W. Boyer Program in Biological Sciences (P.I.B.S.) Biomedical Sciences (BMS) Graduate Program
Wash U	Washington University Program in Neuroscience	Division of Biology and Biomedical Sciences (DBBS) Graduate School of Arts & Sciences

Source: Websites

UCLA Neuroscience Strategic Plan

Although UCLA had the largest number of neuroscience-related training grants in 2008, it did not have commensurate total award dollars.



*Selected all training (T) grants in departments of neuroscience, neurology, neurosurgery, psychiatry and psychology plus any grant that included the following strings in the title: *neur, brain, cereb, nervous, nerve, Mental, psych, spinal, spine, stroke, fMRI, memory, cognitive, epilepsy, dementia, alzheimer, parkinson, autis, multiple sclerosis, schizophrenia, depression, bipolar, behavior, nerve, synap.*

** Harvard's MSTP program is under the department of Neurology.

Source: Analysis of NIH Data.

UCLA Neuroscience Strategic Plan

Recommendations for training the next generation of neuroscientists

1. **Interdisciplinary: expose students to all relevant disciplines involved in neurosciences.**
   - **Expose students to new disciplines and techniques:** ethics, neuroeconomics, cosmetic neuroscience and enhanced functional MRI.
   - Field is **moving from a model of neurobiology to neuroscience**…"Neurobiology" will no longer be a discipline.
   - **Training should be within neuroscience programs** rather than in neuroscience departments to allow for interdisciplinary teaching and learning.
   - Transcend departmental lines and **removes traditional boundaries** of scientific fields.
2. **Train students widely and in a timely fashion - give them varied opportunities and experiences.**
   - **Expose students to a variety of bright, opinionated laboratory leaders**
   - Willingness to **be flexible** to take graduate student training where science is heading; **think about the future.**
   - **Ensure that students complete their training within five years** so they may obtain independent positions and be creative and productive through their junior faculty years before their lives become too complicated.
3. **Reward faculty for good training; part of base salary should supports teaching efforts.**
   - **Provide incentives** (e.g., resources for labs, support for grad students), particularly for junior faculty, who spend time on teaching and do it well.
   - **Institutional commitment to support faculty roles as teachers**; **reward faculty** for teaching and research contributions.
4. **Train people based on the realities of the job market.**
   - **We've created an array of neuroscientists**, but an array of neuroscience faculty positions do not exist.
   - **Be practical** – training should be applicable to solving practical problems.
   - **Not all neuroscientists will enter academia** following graduation; ensure that they are well prepared.

Source: Interviews

Recommendations for training the next generation of neuroscientists

Other Comments:

1. Universities should **ensure that every undergraduate knows a little about the brain**.

2. "No single model works." Different models work for different institutions.

3. Currently, tension exists between teaching students everything and getting them through a graduate program in a reasonable amount of time.

4. **Have students focus on a specific area** for the final years of their training.

UCLA Neuroscience Strategic Plan

***U.S. News & World Report* Graduate School Rankings**

Biological Sciences Specialty: Neuroscience / Neurobiology, 2007

Rank	School
1	**Harvard University**
2	**Stanford University**
3	**Johns Hopkins University**
4	Massachusetts Institute of Technology
5	**University of California--San Diego**
6	**University of California--San Francisco**
7	Rockefeller University
7	Yale University
9	**Washington University in St. Louis**
10	California Institute of Technology
10	**Columbia University**

Source: U,S. News & World Report;
NOTE: benchmark institutions are highlighted with blue font.

UCLA Neuroscience Strategic Plan

Institutional Resources Invested in Neuroscience

Institution	Description of Resources
Columbia*	▪ Under development: **3rd campus** including 400,000SF of **additional space**; neuroscience will be housed there. ▪ Funding for **recruitment** of 8-10 neuroscientists.
Harvard	▪ HU donated **10 half FTE's** for CBS faculty recruitment. ▪ HU provided ~ **20K – 30K NSF** in a multi-use, interdisciplinary building located near the life sciences on the Cambridge campus. ▪ **Core facilities are housed in the same building as the Center's new space**. ▪ Administrative **budget**.
Johns Hopkins	▪ Dean provided **resources to recruit six new faculty**. ▪ Not much institutional support, just **general fund to cover some salaries**.
Penn	▪ **Support for Neuroscience Graduate Group**. ▪ **Modest budget for Mahoney** Institute of Neurological Sciences. ▪ Penn CNC is substantially funded by **direct transfers from the Health System.** *
UCSD	▪ Invested in **Imaging Center** and in **joint hires**. ▪ Supportive of the **Kavli Institute**.
UCLA	▪ Investments have been made for **faculty retention**. ▪ **Space** in the Neuroscience Research Building which was launched centrally.
UCSF	▪ The School of Medicine Dean has provided funds to **support student recruitment**. ▪ The UCSF Graduate Dean provides funds to help **support student stipends, fees and tuition**. ▪ The Boyer Endowment also provides major support for **student stipends, fees and tuition**. ▪ Many departments and institutes also provide resources to help **support Neuroscience Program administration and activities**.
Wash U	▪ University **investment in Biomed21**; two of the BM21 **centers are neuroscience-focused**. ▪ **$30M gift from BJC Health Care to fund an 11-story research building**, "Institute of Health" - houses two neuroscience centers of BioMed21. *

*Resources from the Medical Center or Health System; S*ource: Interviews*

UCLA Neuroscience Strategic Plan

Philanthropic Support

Institution	Philanthropy role in available resources	Strategies used to enhance philanthropic support
Columbia	▪ Philanthropy plays a vital role. The new facility and new programs are funded by donors. ▪ The Jerome L. Green Science Center is funded by the largest gift given to a U.S. University for a single facility (the gift was valued at $200M in 2006).	▪ The University has focused on development to support the new building and the programs that will be housed in the new building. ▪ Some smaller disease-based fundraising activities are underway
Harvard	▪ N/A	▪ University and College development offices support CBS fundraising. ▪ With administrative changes and the economic downturn, raising money for postdoctoral fellowships, seed grants, etc. has been challenging. ▪ Various faculty in the CBS have been awarded foundation grants and core facilities grant from NIH; CBS has raised money for some of the research and shared facilities.
Johns Hopkins	▪ Nearly all support for neuroscience has come from philanthropy. ▪ Initial gift: $10 million received two years ago. ▪ Recent gift: $100 million over five years; 25% for cores / 75% for novel research collaborations.	▪ The School of Medicine development office targets grateful patients. ▪ Dean and chairs court donors.

Source: Interviews

UCLA Neuroscience Strategic Plan

Philanthropic Support (cont'd)

Institution	Philanthropy role in available resources	Strategies used to enhance philanthropic support
Penn	■ Endowed Chair – Department of Neuroscience provided by philanthropist David Mahoney, former head of the Dana Foundation and Penn alumni; Mahoney also provided substantial resources for Penn neuroscience.	■ Current SOM fundraising focus is on the PCNC but the tough economic climate is a challenge to current fundraising efforts.
UCLA	■ Collectively, UCLA neuroscience has raised approximately $300M over the past ten years. ■ Philanthropy and Semel money have played a huge role in the development of neuroscience at UCLA.	■ This should be more collaborative but it tends to be internally competitive at UCLA.
UCSD	■ Philanthropy played a significant role in the development of the Kavli Institute, CARTA, and the Salk Institute.	■ N/A
UCSF	■ Neuroscience at UCSF has been supported by The Herbert Boyer endowment. Herbert Boyer donated significant part of his patent to graduate education at UCSF. The endowment provides $600-800K/year and is primarily used to support student stipends, some of which are in neuroscience.	■ N/A
Wash U	■ The McDonnell Centers were very important a decade ago and continue due to the McDonnell endowment. ■ A $30 million gift from BJC HealthCare will help construct a new 11-story research building on the campus of WUSM to house BioMed 21.	■ The Dean and the Chancellor keep close reins on targeted efforts for philanthropy. ■ WUSM and WU do not have a specific neuroscience fundraising entity. ■ Departments and informal collaborations across departments and centers initiate philanthropic endeavors, but not under a specific neuroscience umbrella.

Source: Interviews

Philanthropic Support (cont'd)

Institution	Philanthropy role in available resources	Strategies used to enhance philanthropic support
Wash U	■ The McDonnell Centers were hugely important a decade ago and continue to be helpful because of the McDonnell endowment. ■ A $30 million gift from BJC HealthCare will help construct a new 11-story research building on the campus of WUSM to house BioMed 21. ■ St. Louis businesswoman and philanthropist Edith L. Wolff has made a commitment of $20 million to support biomedical research projects that lead to the prevention, treatment and cure of disease.	■ The Dean and the Chancellor keep close reins on targeted efforts for philanthropy. ■ WUSM and WU do not have a specific neuroscience fundraising entity. ■ Departments and informal collaborations across departments and centers come up with ideas for philanthropic endeavors, but not under aegis of specific neuroscience umbrella.

Source: Interviews

UCLA Neuroscience Strategic Plan

Are there formal metrics for research space allocation? Describe process.

Institution	Formal Space Metrics?	Comments
Columbia	**No**	■ At present there are **no metrics in place**; **the new dean is trying to establish standards** based on research grant overhead income. ■ The Jerome L. Greene Science Center may have its own space allocation standards and procedures.
Harvard	**No**	■ **Deans assign space to Departments.** ■ The CBS has 20-30K NSF of dedicated space, which houses a subset of CBS labs; the CBS director has some control over CBS space but space has been reduced because of dislocations caused by the economic downturn.
Johns Hopkins	**No**	■ **Dean and CFO handle space allocations to departments.** ■ Department chairs allocate space to faculty.
Penn	**Yes**	■ **Formal metrics for space exist but they are not always followed for practical reasons.** ■ Space is assigned **based on research dollars per square foot and number of people using the space.** ■ Research space: owned by the Dean – assigned to departments who then oversee space allocation.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Are there formal metrics for research space allocation? Describe process.

Institution	Formal Space Metrics?	Comments
UCLA	**No**	▪ **Some departments have formal metrics**; Department of Neurology has formal metrics based on: productivity, publications, space utilization.
UCSD	**Variable**	▪ Space is **allocated by schools and departments.** ▪ **Each school has its own policies** for space allocation.
UCSF	**No**	▪ **Dean assigns research space to department chairs** who allocate space to specific faculty. ▪ The Chancellor initially assigned space at Mission Bay to programs and departments; no formal metrics are used.
Wash U	**Yes**	▪ **Space utilization metrics are provided to and reviewed annually by the Dean.** ▪ **Department chairs can negotiate with the Dean** based upon the department's annual performance metrics. ▪ **Metrics are part of an overall "faculty productivity report"** that WUSM has utilized since the early 1990s – across departments, by rank, by mission area – per faculty member. ▪ With the emergence of centers in the new Institute for Health, space will not be assigned specifically to departments; centers will not own space, but **dean will allocate space to centers as their needs evolve.** • Each center will have a steering committee that will oversee space allocations; this is a work in progress.

UCLA Neuroscience Strategic Plan

Process used to allocate financial resources

Columbia	▪ **Individual faculty must fend for themselves** with minimal support from departments.
Harvard	▪ N/A
Johns Hopkins	▪ **Dean and CFO handle resources allocations to departments.** ▪ **Department chairs allocate to faculty.**
Penn	▪ **Financial resources are allocated based upon a combination of metrics and budget history**. ▪ There are **no specific formulas** but the percentage of faculty salary recovered on grants and dollars per net square foot are considered. ▪ Allocations may change year to year **based upon how the department performed the previous year**.
UCLA	▪ **This is primarily departmentally driven.** Some resource sharing does take place, but mostly involving diplomatic contacts between departments.
UCSD	▪ **Most faculty rely on federal funding for support and manage within the resources provided** by their grants.
UCSF	▪ **No formal metrics used for financial resource allocation.**
Wash U	▪ **Management of financial resources is largely department-specific.** ▪ **Basic science departments are highly dependent on the Dean's Fund Allocation (DFA)** which is based on the Dean's reserves. ▪ It is yet to be determined how much DFA the BioMed21 centers will control or have access to. • Each center is not expected to have large endowments nor are the centers responsible for faculty salaries. They will have budgets to encourage programmatic development. • The center budgets may end up coming from the Dean's Fund Allocation but again, this is a work in progress.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Parameters and processes used for recruitment of neuroscientists

Columbia	▪ **Thematically based** ▪ **Focused mainly on junior faculty** with a few strategic recruitments of senior faculty. ▪ **A committee of 25 people oversees neuroscience recruitment.**
Harvard	▪ **Joint search committees** are created with members from the CBS and from departments ▪ **Harvard University provided 10 half FTE's to the Center for CBS faculty recruitment;** these are donated to Departments, so that faculty are fully department members. • **Faculty recruits are members of center but have departmental appointments**. • In some cases the half FTEs help recruit neuroscience faculty who might not otherwise come to HU if they were concerned about being isolated in an arts & sciences department. • Departments remain a critical component as they play the key role in tenure and teaching assignments. • Some CBS faculty are given space in the building that just opened, others reside within departments • Currently there is a hiring freeze for the CBS and elsewhere at Harvard due to the significant impact the economic downturn has had on the university and its endowments.
Johns Hopkins	▪ **Departments are autonomous, but there are some joint recruitments with the Brain Science Institute.**

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Parameters and processes used for recruitment of neuroscientists (cont'd)

Penn	■ **A major initiative is currently underway to recruit very high profile neuroscientists campus-wide under mechanism called PIK (Penn Integrates Knowledge).** • PIK is designed to **use university funds to make high level, joint appointments across multiple schools which will strengthen interdisciplinary research** across Penn. (Note: this is not neuroscience-specific.) • Goal: Appoint faculty as "university professors" with substantial resources available to them and with appointments in more than one school. ■ PIK resources are in place specifically for Neuroscience recruitment ($50M which came from profits of health system transferred to the university). • To spend down $50M over five years and make 5 or more appointments.
UCLA	■ **Recruitment occurs departmentally, although a neuroscience planning committee has made some attempts at group recruitment.**
UCSD	■ **Each department recruits its own faculty.** ■ Sometimes the **medical school collaborates in recruitment.**
UCSF	■ Faculty recruitment is **handled at the department level.** ■ On an **ad hoc basis**, departments determine if they would like to pursue recruitment collaboratively with for development of interdisciplinary neuroscience programs. ■ Departments that want **new faculty to be members of graduate programs MUST conduct searches in collaboration with that graduate program;** the graduate program approves search committee membership. Almost all departments do this.
Wash U	■ Neuroscience faculty recruitment is currently **department specific**, although some departments work collaboratively for joint recruitment. ■ **Through these new centers, programmatic development may involve faculty recruitment.**

UCLA Neuroscience Strategic Plan

Which of the following have been created for neuroscience-wide application?

Institution	Programmatic Structures Spanning Disciplines	Vivarium	Core Facilities	Seed Grants	Clinical Trials Infrastructure
Columbia*	✔	✔	✘	✔	✘
Harvard	✔	✘	✔	✘	✘
Johns Hopkins	✔	✔	✔	✔	✘
Penn	✔	✘	✘	✔	✘
UCLA	✔	✘	✔	✘	✘
UCSD	✘	✘	✔	✘	✘
UCSF	✘	✘	✘	✘	✘
Wash U	✔	✘	✘	✔	✘

✓ **Yes; X No**

** Columbia is in the planning stages of a new facility (the Jerome L. Greene Science Center, funded by a $200M gift) which would house neuroscience-wide facilities.*

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Institution	✔ Yes ✘ No	*PROGRAMMATIC STRUCTURES SPANNING DISCIPLINES:* How is it supported and managed?
Columbia	✔	▪ **More programmatic structures are likely to develop as the Mind, Brain & Behavior Initiative progresses.** ▪ Programs are **supported by philanthropy.** ▪ Each program has its own **administrative leadership.**
Harvard	✔	▪ **CBS is one of several neuroscience-based groups** within the University.
Johns Hopkins	✔	▪ Under the auspices of the **Brain Science Institute.**
Penn	✔	▪ **Mahoney Institute is central to this for neuroscience.** ▪ Clinical departments often have independent resources and the extent to which they participate varies. ▪ **The Institute has an internal advisory board which** meets on an ad hoc basis to evaluate programmatic requests that come in.
UCLA	✔	▪ **Programs are departmentally based.**
UCSD	✘	▪ UCSD's organized research units, training program, and Neuroimaging program foster collaboration across disciplines but there are **no formal programmatic structures.**
UCSF	✘	▪ Collaboration is **done as necessary within research protocol or program.**
Wash U	✔	▪ **Supported by departments.** ▪ The two BioMed21 **centers that are neuroscience related will be involved with programmatic development** that spans disciplines across the university.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Institution	✔ Yes ✘ No	*VIVARIUM:* How is it supported and managed?
Columbia	✔	▪ **The new building will have its own vivarium.** ▪ 3-4 vivaria currently on campus.
Harvard	✘	▪ Vivaria are **located at Harvard Medical School, in the Biology Department at the College and at Hospitals. Neuroscientists have assigned space within multi-use vivaria.**
Johns Hopkins	✔	▪ **One facility with a few satellites.** ▪ **The primate vivarium is managed by the Mind/Brain Institute.**
Penn	✘	▪ The vivarium is provided by the university and is **not neuroscience specific.** ▪ Faculty across multiple schools have access to the vivarium.
UCLA	✘	▪ Vivaria are **school-based at the Dean level.**
UCSD	✘	▪ Vivaria are **separately managed by departments.**
UCSF	✘	▪ The vivarium is **centrally administered and not specific to Neuroscience.**
Wash U	✘	▪ The **Department of Comparative Medicine (DCM) at the School of Medicine controls animal facilities and reports to the Vice Chancellor for Research Affairs.** ▪ The DCM vivarium is available to all faculty including neuroscientists; it is not neuroscience specific.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Institution	✔ Yes ✘ No	*CORE FACILITIES:* How is it supported and managed?
Columbia	✘	▪ **Neuroscience lacks major core facilities.** ▪ It may be more desirable to develop a series of smaller cores.
Harvard	✔	▪ **Available to all members of the Center and,** as time permits, to members of Biology Department and Medical School neuroscientists; **housed in the new building** where the Center is also housed.
Johns Hopkins	✔	▪ **Under the auspices of the Brain Science Institute.**
Penn	✘	▪ **SOM has an extensive set of core facilities, but they are not neuroscience specific.** ▪ Penn has received a core vision grant from the NIH that is a major neuroscience asset. ▪ Proteomics and genomics – available to all researchers in the University.
UCLA	✔	▪ **Usually unit specific.**
UCSD	✘	▪ **The Burnham Institute is instrumental in providing core services and core grants that support neuroscience at UCSD.**
UCSF	✘	▪ **Not specific to Neuroscience.**
Wash U	✔	▪ **Cores are medical school-wide and report to Research Affairs Committee.** They currently lack strong oversight and are not well-coordinated. WUSM has recruited a new Associate Dean for Research who is expected to enhance the cores. ▪ **WUSM has a P30 core from the NIH (in its 3rd year) that is neuroscience specific.** This has been helpful in establishing new cores and enhancement of existing cores, and in broadening capabilities and efficiency.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Institution	✔ Yes ✕ No	*SEED GRANTS:* How is it supported and managed?
Columbia	✔	▪ **Supported by philanthropy.** ▪ **2-3 senior faculty run the evaluation and selection process.**
Harvard	✕	▪ **None specific to neuroscientists** in the Center, at this point.
Johns Hopkins	✔	▪ **Under the auspices of the Brain Science Institute.**
Penn	✔	▪ **Several pilot grant programs exist including one for the Mahoney Institute.** ▪ Penn CNC had one $1M pilot grant program in its first year, but that was primarily ad hoc**.** ▪ There is a **University Research Fund through Provost office where junior faculty can compete for small seed grants; Penn neuroscientists do very well with this.** ▪ Bridge funding is available through both the university Provost's office and through the school of medicine.
UCLA	✕	▪ **School or unit specific.**
UCSD	✕	
UCSF	✕	▪ **Several grants but not specific to Neuroscience: Sandler Opportunity Grants, Sandler Blue Sky Grants, Academic Senate Pilot Grants.**
Wash U	✔	▪ **Neurosciences at WUSM still benefit tremendously from two neuroscience-specific endowments by the McDonnell Foundation**. Both McDonnell centers (McDonnell Center for Systems Neuroscience; McDonnell Center for Cellular and Molecular Biology) **facilitate pilot projects and collaborative interdisciplinary research endeavors.**

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Institution	✔ Yes ✕ No	*CLINICAL TRIALS INFRASTRUCTURE:* **How is it supported and managed?**
Columbia	✕	▪ **Managed by individual investigators in departments.**
Harvard	✕	▪ This is done **through the Harvard hospitals**
Johns Hopkins	✕	▪ **Not supported** by the Brain Science Institute.
Penn	✕	▪ **University-wide through Provost's Office.** ▪ The School of Medicine is the only school that participates in this. ▪ This is a large office but **not neuroscience specific.** ▪ **CNC may try and play a greater role.**
UCLA	✕	▪ **School or unit specific.**
UCSD	✕	▪ **Not neuroscience specific.**
UCSF	✕	▪ **Not neuroscience specific.**
Wash U	✕	▪ **Not Neuroscience specific but WUSM has a number of trials that are neuro-oriented.** Wash U has a clinical trials center and clinical neuroimaging research entity.

Source: Interviews; specific input for Stanford was not available.

UCLA Neuroscience Strategic Plan

Successful approaches to strengthen collaboration between basic scientists and clinical scientists and among neuroscientists across the University

Columbia	▪ Columbia has **centers built around themes** that bring people together**.** ▪ Although there are staff whose job it is to facilitate collaborations, **most collaborations are scientist led.** ▪ The approach is **entrepreneurial** rather than top-down.
Harvard	▪ **Establishment of the Center for Brain Science has been instrumental in strengthening neuroscience collaboration across schools, departments and disciplines,** particularly given its physical proximity to the physical and behavioral sciences on the Cambridge campus. ▪ **Mixing different departmental cultures into a interdisciplinary center can be challenging;** some departments have higher teaching loads than others (physics and engineering), and Harvard has not yet determined how best to deal with that tension.
Johns Hopkins	▪ **The Brain Science Institute fields a variety of working groups to facilitate collaboration.** They advertise, see who comes to the meetings, and wait for collaborations to emerge.
Penn	▪ **Penn previously had a large ($1M) pilot grant program that provided pilot grants** to proposals that were submitted with two PIs: one from a clinical department and one from a basic science department. These were effective in establishing translational research collaborations. ▪ In the first year alone, 55 applications were submitted for these pilot grants. Many of those were successfully turned into NIH R01s.
Stanford	▪ N/A

Source: Interviews

UCLA Neuroscience Strategic Plan

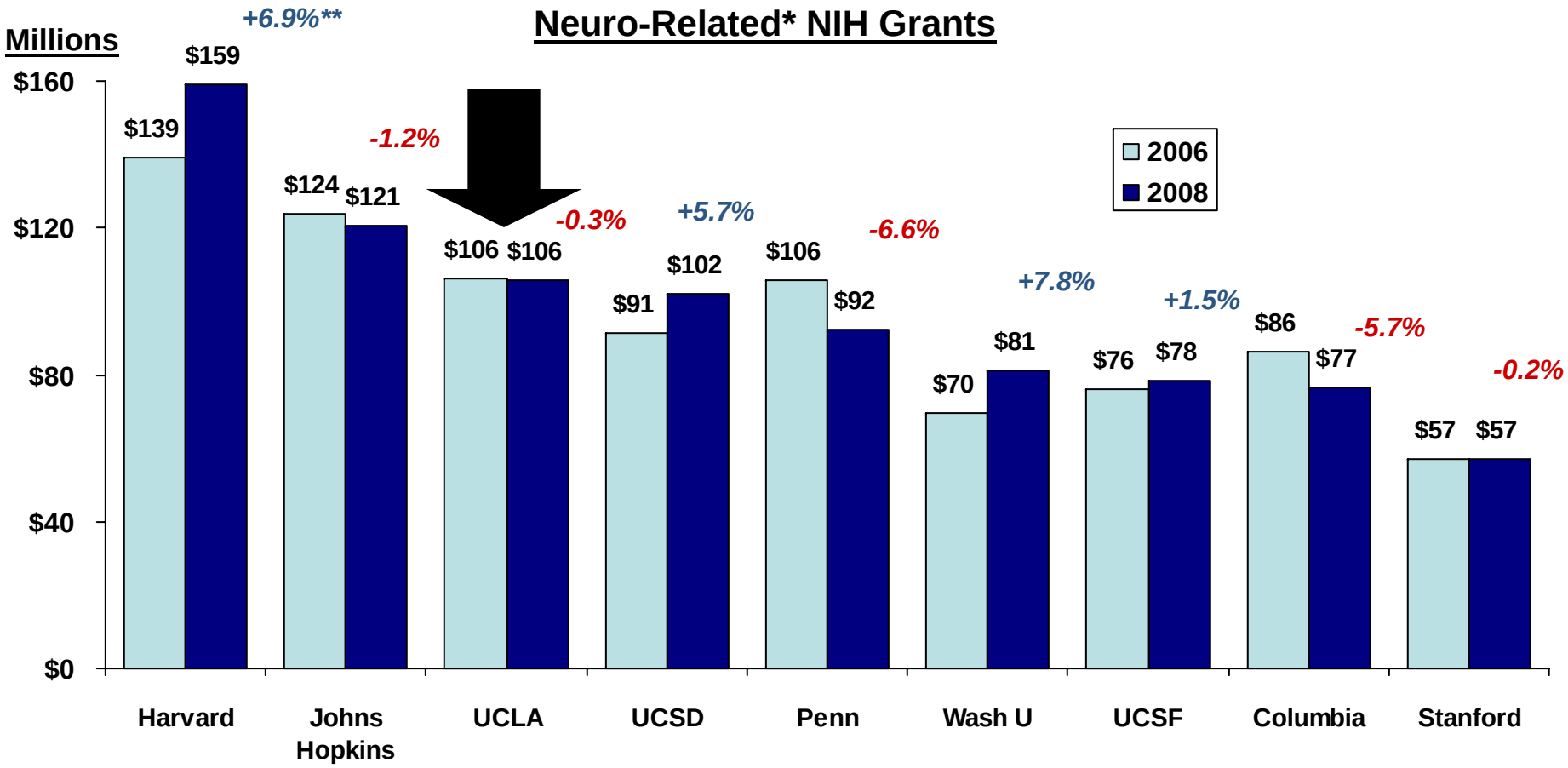
Successful approaches to strengthen collaboration between basic scientists and clinical scientists and among neuroscientists across the University (cont'd)

UCLA	▪ **No true formal mechanisms or designated resources have been developed for facilitating collaborations between basic and clinical scientists; it is primarily opportunity-based.** ▪ **The Brain Research Institute has done a great job at facilitating collaborations across campus;** activities include: • Graduate student program with shared teaching • Affinity groups that are theme based • Excellent seminar series
UCSD	▪ The **ORUs and the Imaging Center** serve this purpose to some extent. ▪ Formal mechanisms are not really needed because UCSD is **already a very collaborative environment.**
UCSF	▪ **UCSF was awarded one of the first CTSA grants.** ▪ **Translational neuroscience is well incorporated into neuroscience graduate program.** • Numerous venues for interaction (e.g. seminar series, lectures, etc.). • Annual retreat for the graduate program that is open to all • Annual symposium with external neuroscience guest lecturers – done occasionally but nothing formal due to poor attendance. ▪ The following activities are intended to facilitate collaboration across campus: • Periodic one-day meetings with chairs of neurology and psychiatry to discuss relevant issues. • Retreat that invites clinical faculty to discuss their work. • Faculty who manage resident and fellow training effectively communicate opportunities in basic science labs to their students.
Wash U	▪ **The two BioMed21 centers focused on neuroscience are anticipated to facilitate collaboration.**

Source: Interviews

UCLA Neuroscience Strategic Plan

A search of neuro-related keywords in NIH grant titles provides one perspective on NIH funding among benchmark institutions. Harvard and its related hospitals had the highest amount of total funding while UCLA ranked 3rd in 2008.



*Selected all grants in departments of neuroscience, neurology, neurosurgery, psychiatry and psychology plus any grant that included the following strings in the title: *neur, brain, cereb, nervous, nerve, Mental, psych, spinal, spine, stroke, fMRI, memory, cognitive, epilepsy, dementia, alzheimer, parkinson, autis, multiple sclerosis, schizophrenia, depression, bipolar, behavior, nerve, synap.*

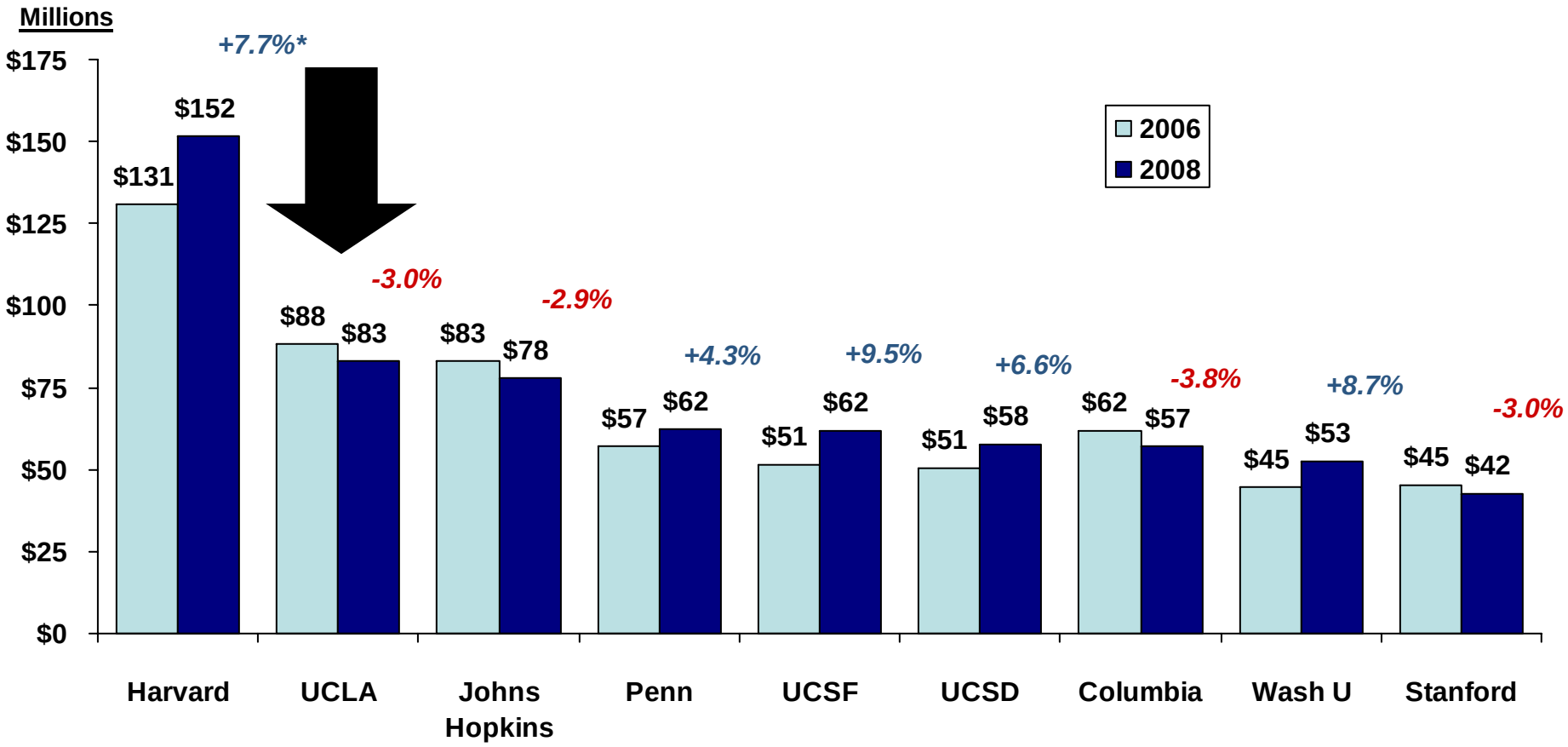
**Compound Annual Growth Rate (CAGR)

Source: Analysis of NIH data. (excludes contracts)

UCLA Neuroscience Strategic Plan

Based on grants awarded by the NIMH and NINDS, Harvard and its hospitals have far more NIH funding than all other benchmark institutions. UCLA ranks second from this perspective.

Grants from National Institute of Mental Health and Neurological Disease



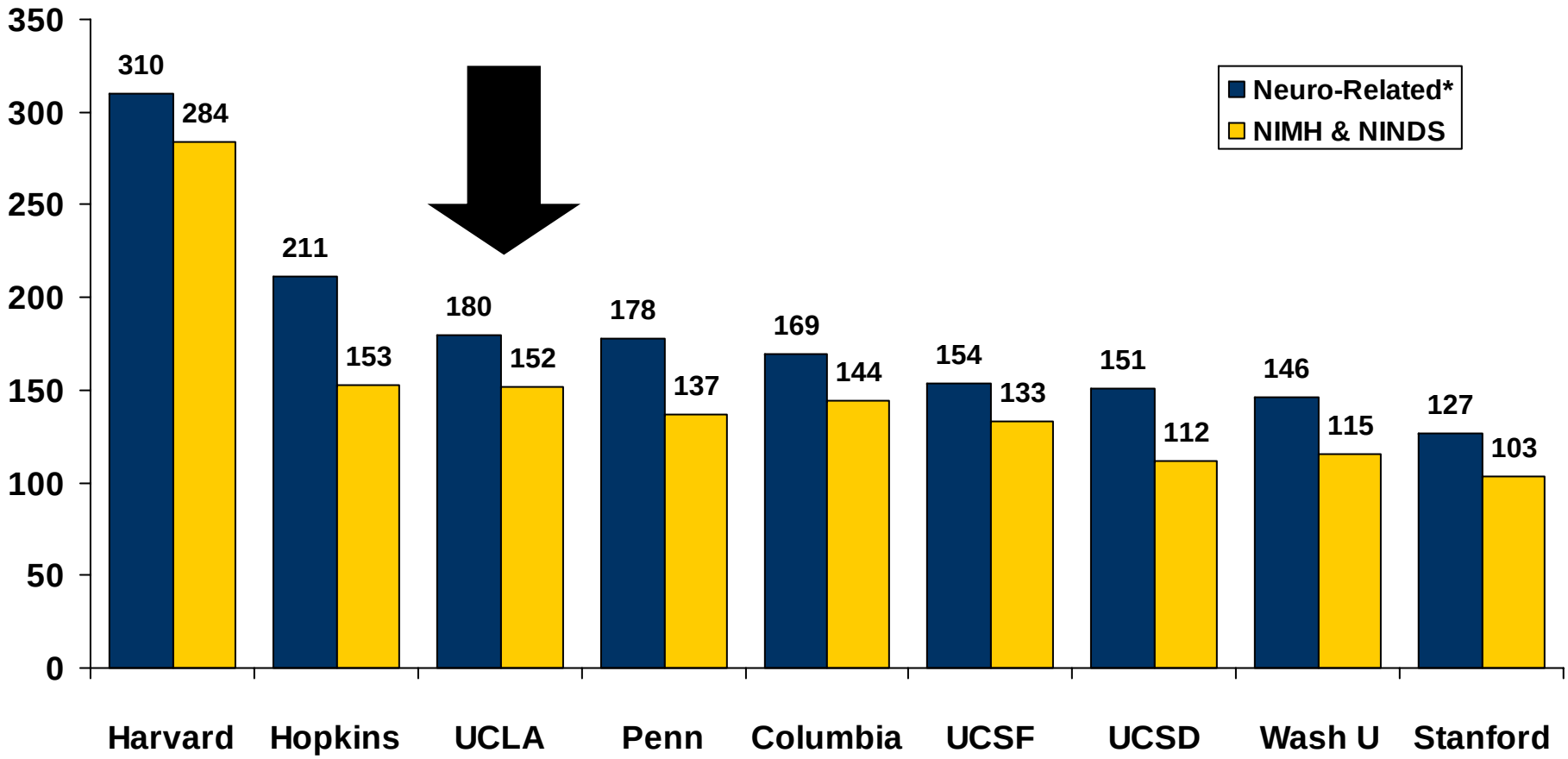
*Compound Annual Growth Rate (CAGR)

Source: Analysis of NIH data; excludes contracts.

UCLA Neuroscience Strategic Plan

The number of UCLA faculty with NIH neuroscience grants is in the mid-range among benchmark institutions.

Number of Faculty with NIH Grants, Neuro-Related* vs. NIMH & NINDS, 2008

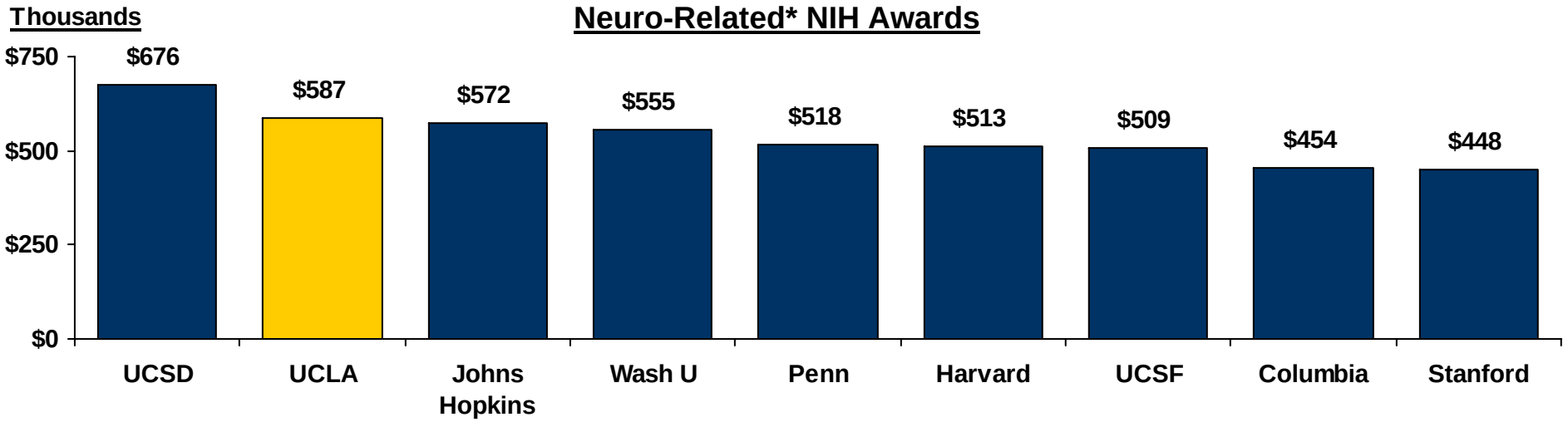


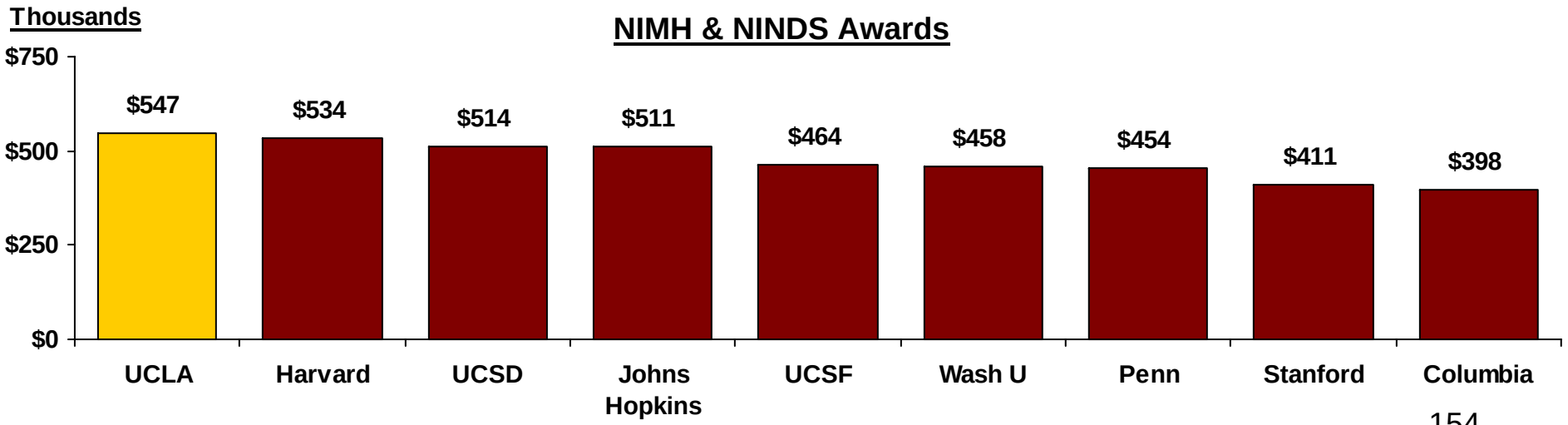
* Refer to page 49 for description of selection criteria.
Source: Analysis of NIH Data.

UCLA Neuroscience Strategic Plan

UCLA's average award size is on the high end among benchmark institutions.

Average NIH Award Amount, 2008





* Refer to page 49 for description of selection criteria.
Source: Analysis of NIH Data.

Future of Neuroscience

UCLA Neuroscience Strategic Plan

Biggest challenges facing neuroscience in the next decade

- **Understanding how circuits work.** *(n = 4)*
  - Assembling circuits with enough precision and complexity that you can see how they underlie behavior.
  - Understanding how neural circuits are organized and how they break down is a focus for systems neuroscience.
  - Novel molecular approaches for solving circuit problems.
- **Lack of stable funding.** *(n = 2)*
  - Continuing to attract and retain the best young talent who will drive discovery and exploration amidst the current funding environment.
- **The emergence of new disciplines that are critical to neuroscience and collaborations.** *(n = 2)*
  - Neuro law, neuro economics and other disciplines will have a tremendous impact on neuroscience overall.
  - The level of interdisciplinary work that will be required makes collaborations difficult because researchers from different disciplines don't speak the same language.
- **Making a difference with translational research where basic neuroscience discovery can make a significant impact on diagnosis and treatment of disease.** *(n = 2)*

Source: Interviews
Note: interviewees were not limited to only one answer.

Biggest challenges facing neuroscience in the next decade

The following challenges were each mentioned once:

- Understanding the molecular and genetic basis for disease.
- Need for new technologies and research methods.
- Understanding systems and behavior at the level where we can understand how the brain works.
- Limitations on primate research.
- Bringing the products of neuroscience to the public in non-medical areas.
    - How do we optimize education? How do we establish a disease profile at birth?
- Solving neurodegenerative diseases will be critical; this could bankrupt the globe given the associated costs of caring for these diseases.

Source: Interviews

UCLA Neuroscience Strategic Plan

Areas of neuroscience that will have the greatest opportunity for rapid advancement in the next decade

Columbia	■ Building **new methods** to understand disease from the organization of circuitry to behavior. ■ Development of **effective cures** for neurological diseases.
Harvard	■ To **understand neural circuits –** this is the mission of the CBS at Harvard. ■ Learning the structure and function of neural circuits and discovering how these circuits change during development and aging and in neurological and psychiatric diseases; investigating how neural circuits govern behavior and how they vary between individuals. ■ **Molecular therapeutics –** early pre-clinical drugs that have come out of studies of neural development and transmission are finally getting somewhere. Genotype-specific therapy is on the horizon.
Johns Hopkins	■ **Genetics** of complex human disease. ■ **Functional MRI** and other **imaging techniques.**

Penn
(Challenges and Opportunities are the same)
	■ **Understanding how neural circuits are organized** and how do they break down is a focus for **systems neuroscience.**
	  ■ Contribution of novel molecular approaches will be important to solve circuit problems.
	  ■ Taking new approaches, particularly optical approaches, to understanding circuits.
	■ **Cellular and molecular neuroscience.**
	  ■ Behavioral approaches with systems neuroscience corollaries.

Stanford	■ Understanding how individual **circuits** work.
UCLA	■ Addressing **neurodegenerative disease** is an imperative**.** ■ **Stroke –** made progress over the past 10 years but still no firm treatment ■ **Trauma –** spinal cord and brain injury ■ **Developmental disorders**

Source: Interviews

UCLA Neuroscience Strategic Plan

Areas of neuroscience that will have the greatest opportunity for rapid advancement in the next decade (cont'd)

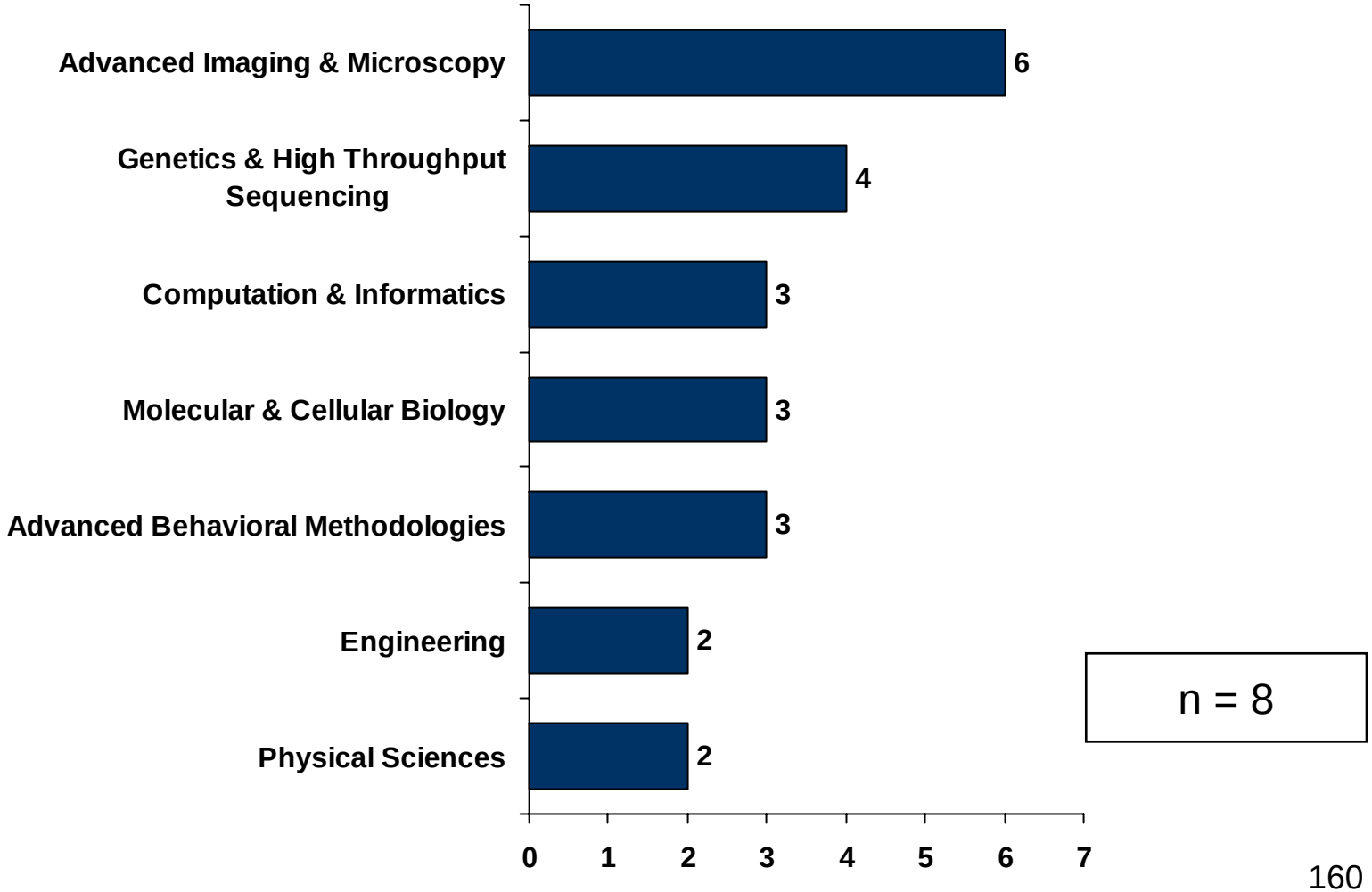
UCSD	■ **Genetics** ■ **New techniques in molecular biology** ■ **Neuroimaging**
UCSF *(Challenges and Opportunities are the same)*	■ **Understanding the molecular and genetic basis of disease.** ■ Develop mechanisms to **manipulate circuit function and understand how circuits work** and how they control brain function and animal behavior. ■ Develop general approaches to **understand the cell biology and biochemistry that regulate the anatomy, synaptic interactions, and plasticity** of the of the vast numbers of different types of neurons within the brain.
Wash U	■ Neuroscience continues to explode across many fronts which has been incredibly important to the success of the field; **need to sustain broad base of real progress on many fronts.** Particular areas include: ■ **Computational neuroscience** • Finally coming to the forefront in terms of impacting how people design their experiments and interpret their data results • Need increasingly complex data sets to establish the framework of models and to explore what computations; this will be increasingly important in the coming decade. ■ **General Neuroinformatics** • Powerful data mining tools are being built. This will continue to allow exploration in ways we can only dream of now. In the coming decade, neuroinformatics will have a huge impact on the efficiency and understanding of large amounts of generated data.

Source: Interviews

UCLA Neuroscience Strategic Plan

Essential technical expertise for a top university to have cutting-edge, prominent neuroscience research

Frequency of Mention



Source: Interviews

Effectiveness of Individualized vs. Collaborative Model

All benchmark interviewees viewed collaboration as either desirable or inevitable. They emphasized the importance of supporting individual investigators and discouraged the used of top down approaches.

- **Collaborations and team science will drive the future.**
  - Going forward the collaborative model is probably the way of the future.
  - Increasingly the formation of collaborative groups of individually expert lab leaders is the direction we are going although it will take time to shift this paradigm.
- **Collaboration is a necessity.**
  - There are some things no individual lab can do on its own.
  - The formation of collaborative groups of individually expert lab leaders is more realistic given limited resources.
  - Opportunities for meaningful and sustainable collaboration are critical to any university.
- **Collaboration cannot be forced with a top-down approach.**
  - Scientists need a forum to work together but not a centralized structure.
  - Strive to recruit the very best people whose research overlaps and facilitate opportunities to work collaboratively together (e.g., seed grants, co-location, etc.).
  - Faculty are adept at forging their own collaborations.
  - Encourage and promote the collaborative endeavors where they can actually have success.
- **It is important to have outstanding individuals and no collective will replace an outstanding individual.**
  - Individual labs continue to make important discoveries.
  - Protect individual investigators so that they can be productive.

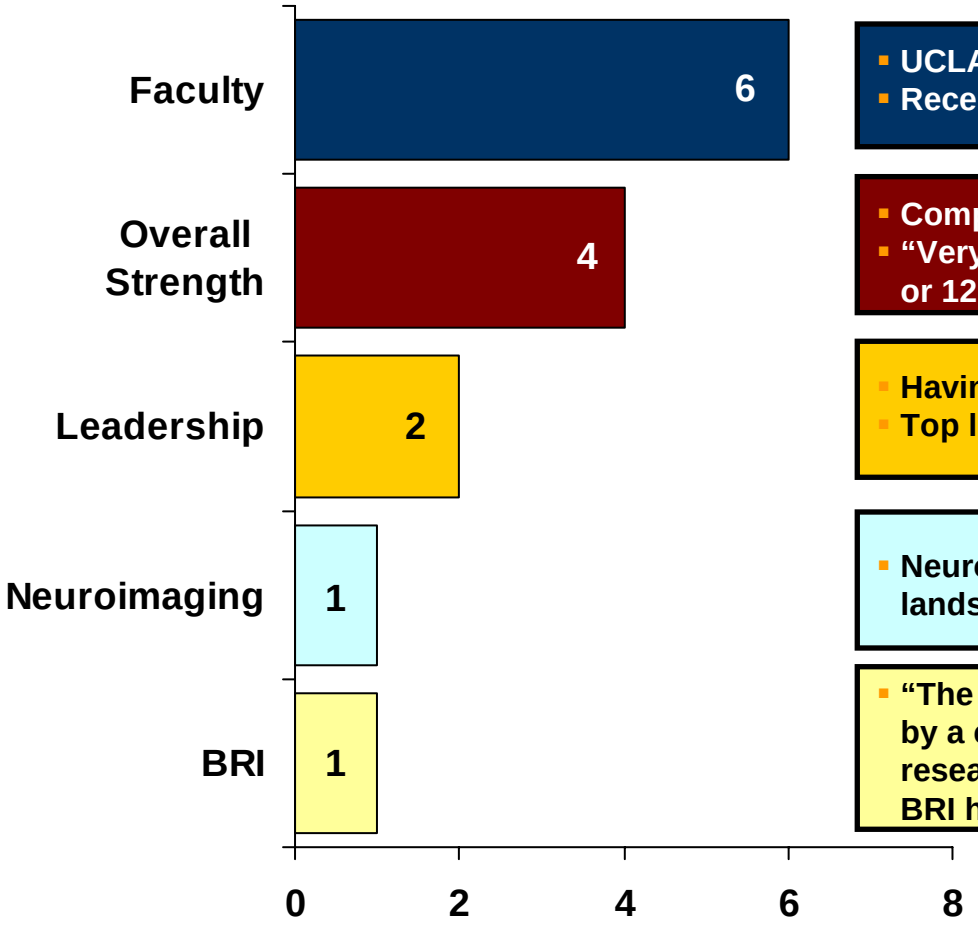
Source: Interviews

Input on UCLA Neuroscience

UCLA Neuroscience Strategic Plan

Input for UCLA – STRENGTHS:

Strengths - Frequency of Mention



- UCLA has some outstanding individual faculty members.
- Recent recruitment of junior faculty has been very good.

- Comprehensive program with great breadth and depth.
- "Very strong program that has evolved into one of the top 10 or 12 in the country."

- Having Gene Block, a neuroscientist, as the Chancellor.
- Top leadership from Mazziota, Chesselet, Whybrow.

- Neuroimaging is a very strong component of the UCLA landscape.

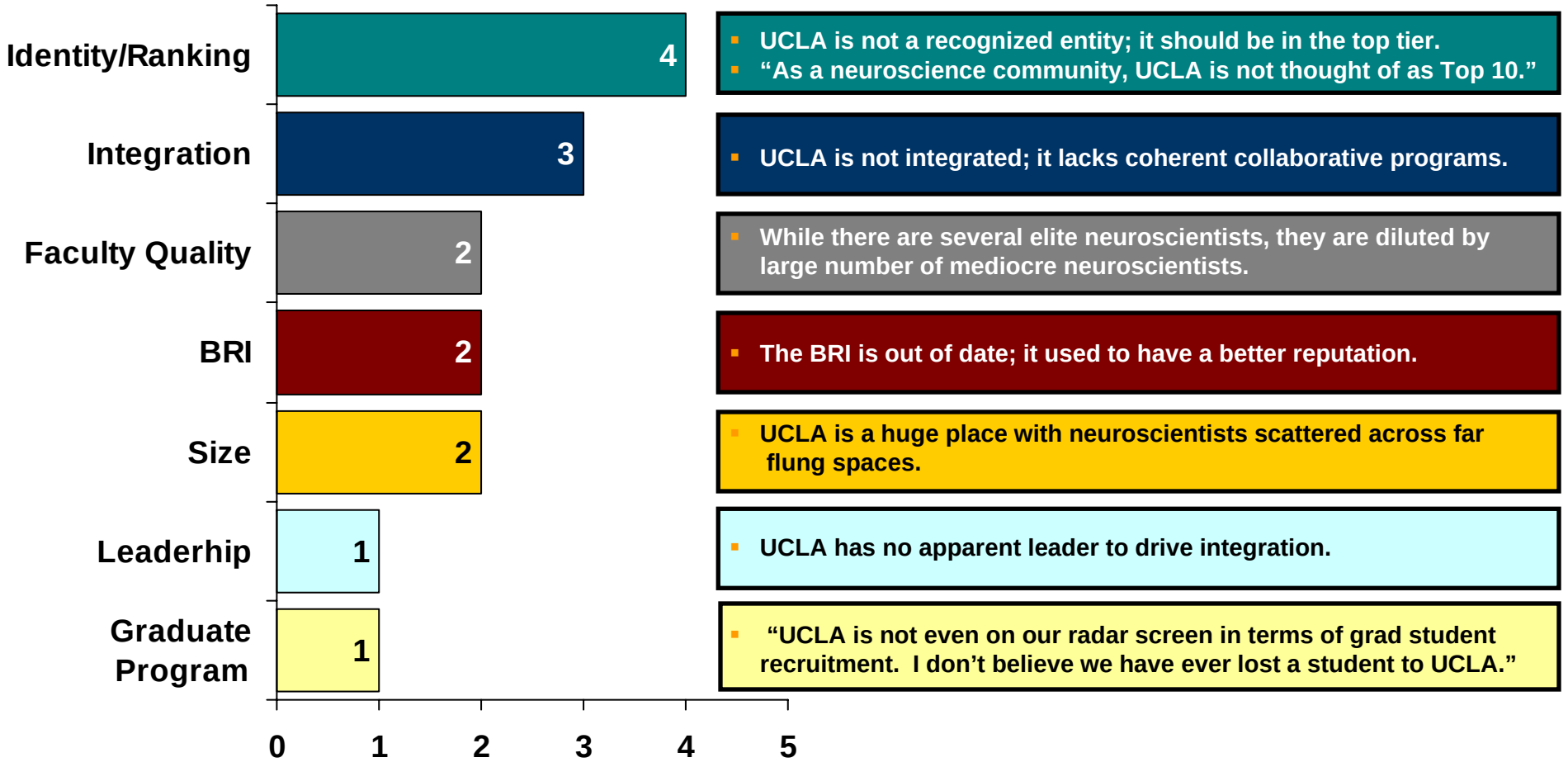
- "The legacy of the Brain Research Institute: it was dominated by a cadre of psychiatrists who were not necessarily good researchers. This has weighed them down in the past but the BRI has turned that around and is now very good."

Source: Interviews (excludes Stanford)

UCLA Neuroscience Strategic Plan

Input for UCLA – WEAKNESSES:

Weaknesses - Frequency of Mention



Source: Interviews (excludes Stanford)

UCLA Neuroscience Strategic Plan

If you had to list 3 neuroscience areas that UCLA should develop and invest in, what would they be?

- **UCLA should identify its strengths and build upon these.**
  - This should be based on quality of research (funding, publications, etc.) as well as programmatic leadership potential and resource availability.
- **UCLA should invest in the following programs or research areas:**
  - Molecular neuroscience;
  - Genetics – not just model organisms but also human genetics and the understanding of human disease;
  - Systems neuroscience;
  - Link between genes, circuits and behavior;
  - All areas of imaging including human biology, all areas of fMRI, high resolution microscopy, electron microscopy, etc.;
  - Developmental neuroscience;
  - Disease and disease models;
  - Computational neuroscience; and
  - Non-human primate research.
- **UCLA should develop a neuroscience department or institute.**

Source: Interviews (excludes Stanford)

UCLA Neuroscience Strategic Plan

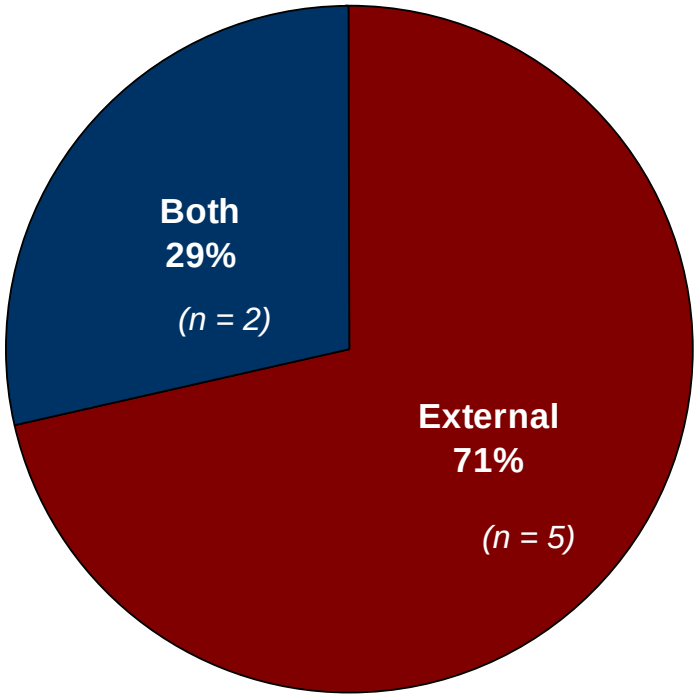
Would it make more sense to hire senior, established leaders or more junior faculty members to strengthen neuroscience at UCLA?

- **The decision to hire junior versus senior faculty <u>depends upon the needs</u> of the organization.**
  - Those interviewed generally favor hiring mostly junior people, but it was also noted as a good strategy to hire young senior faculty.
  - "An organization needs a couple of strong senior people; UCLA may already have them."
  - They cannot ignore faculty rejuvenation, yet they may want to consider big names as well.
  - UCLA should look for unique situations where senior investigators are really needed to develop a program.
- **The arguments for <u>hiring junior faculty</u> are as follows:**
  - Hiring big stars as a strategy does not usually work. A better approach is, if building a specific area, to recruit two outstanding associate-level people who can hit the ground running by providing UCLA with resources they do not currently have.
  - Hiring junior faculty probably makes more sense financially.
  - Recruit, nurture and support young talent; this provides more "bang for the buck."
- **UCLA does not appear to have the leadership to bring everyone together -- they need a very senior person who knows how to do this.**

Source: Interviews (excludes Stanford)

UCLA Neuroscience Strategic Plan

Would you recommend UCLA build its neuroscience programs through external recruitment or through internal promotion?



n = 7

Comments re: "Both":

- "Yes to both!"
- "You have to recruit externally while keeping people who are good."

Comments re: External Recruitment:

- Recruit the best junior faculty using broad, external searches.
- Enhance program by externally recruiting a few associate level faculty.
- "It's always a good idea to get new blood."

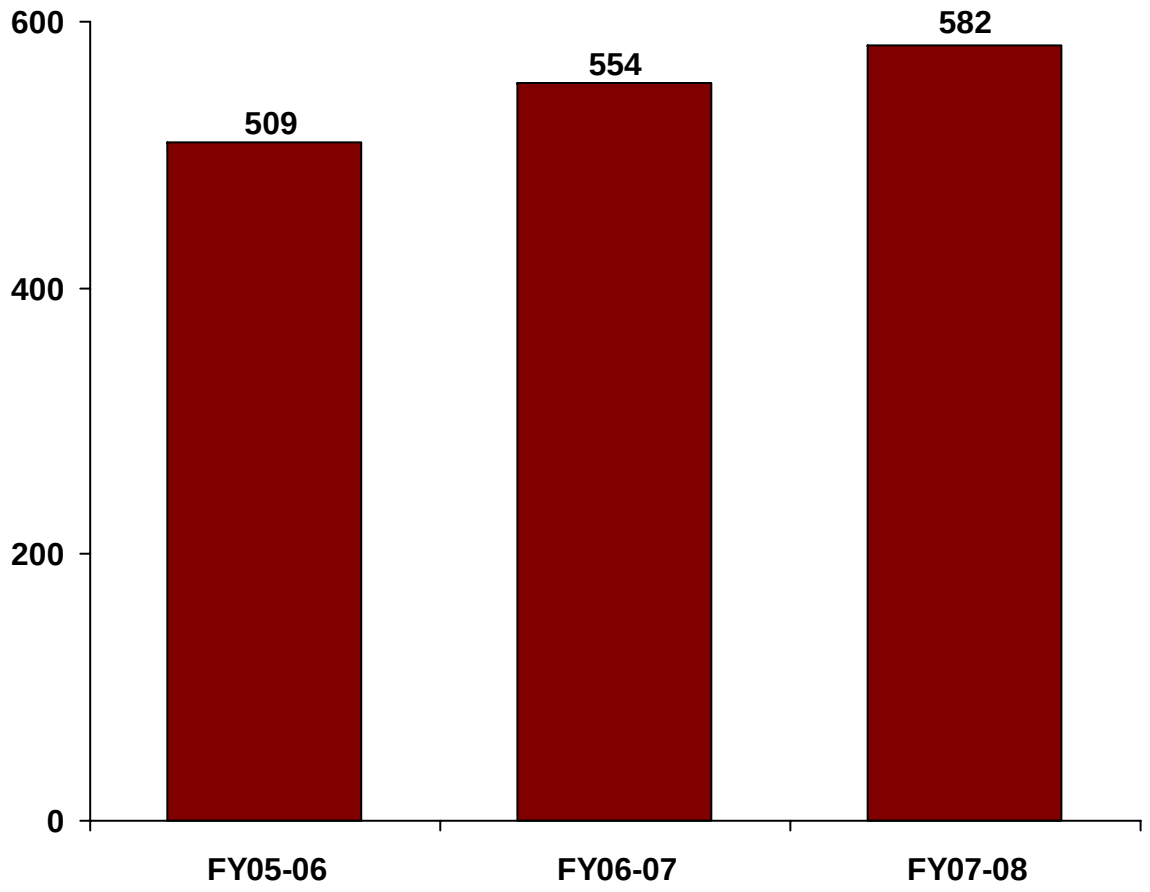
Source: Interviews (excludes Stanford)

APPENDIX D: Environmental Assessment

Faculty

Total UCLA Neuroscience Faculty Headcount

CAGR = +6.9%*



- In FY07-08, UCLA neuroscience-related departments and institutes had 582 faculty members.
- The number increased from 509 in FY05-06 for a compound annual growth rate of 6.9 percent in two years.

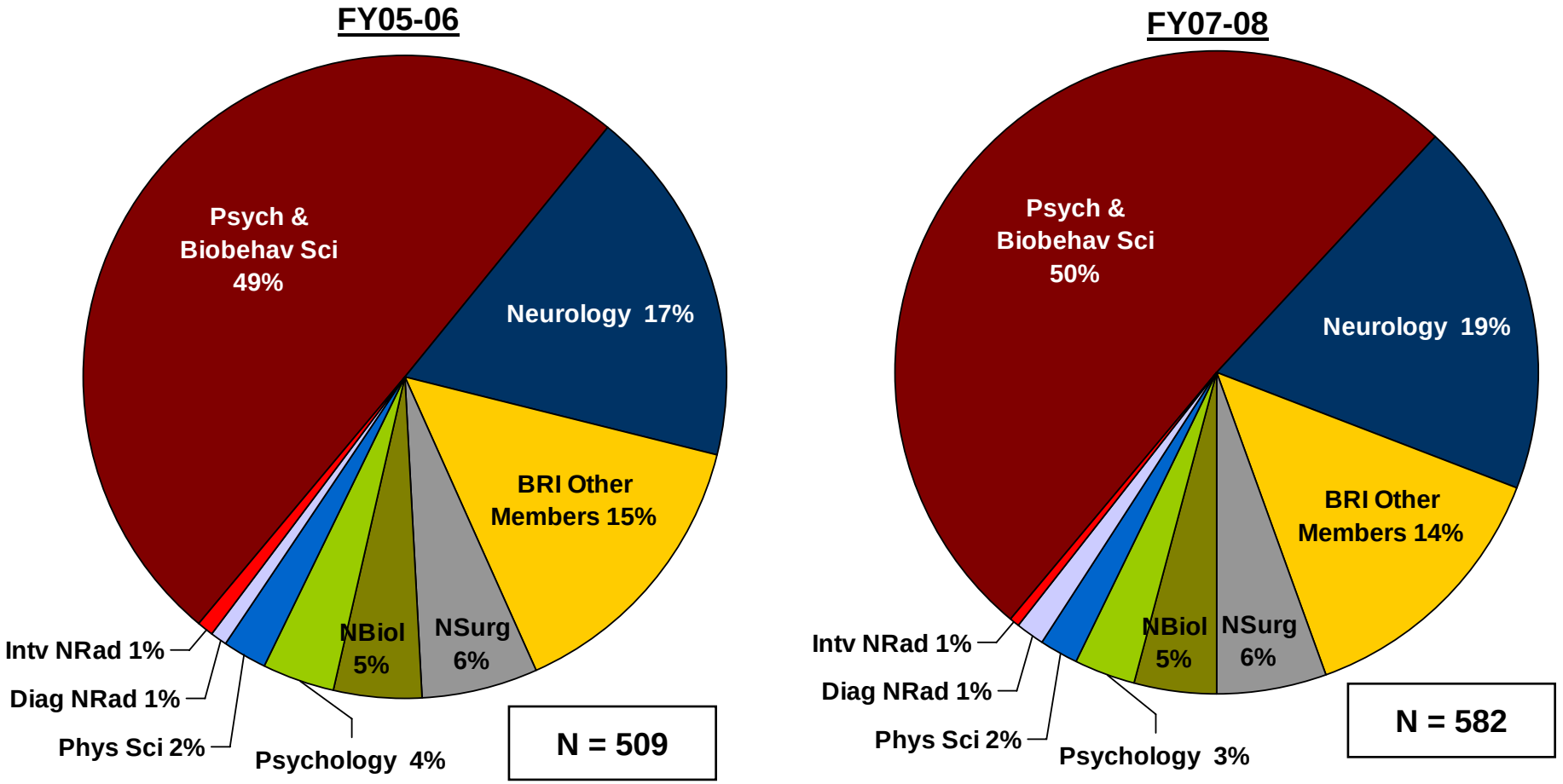
*Compound Annual Growth Rate (CAGR) is used throughout this report.

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

Psychiatry & Biobehavioral Sciences faculty account for approximately half of the total headcount.

Total UCLA Neuroscience Faculty Distribution by Department / Division / Institute*



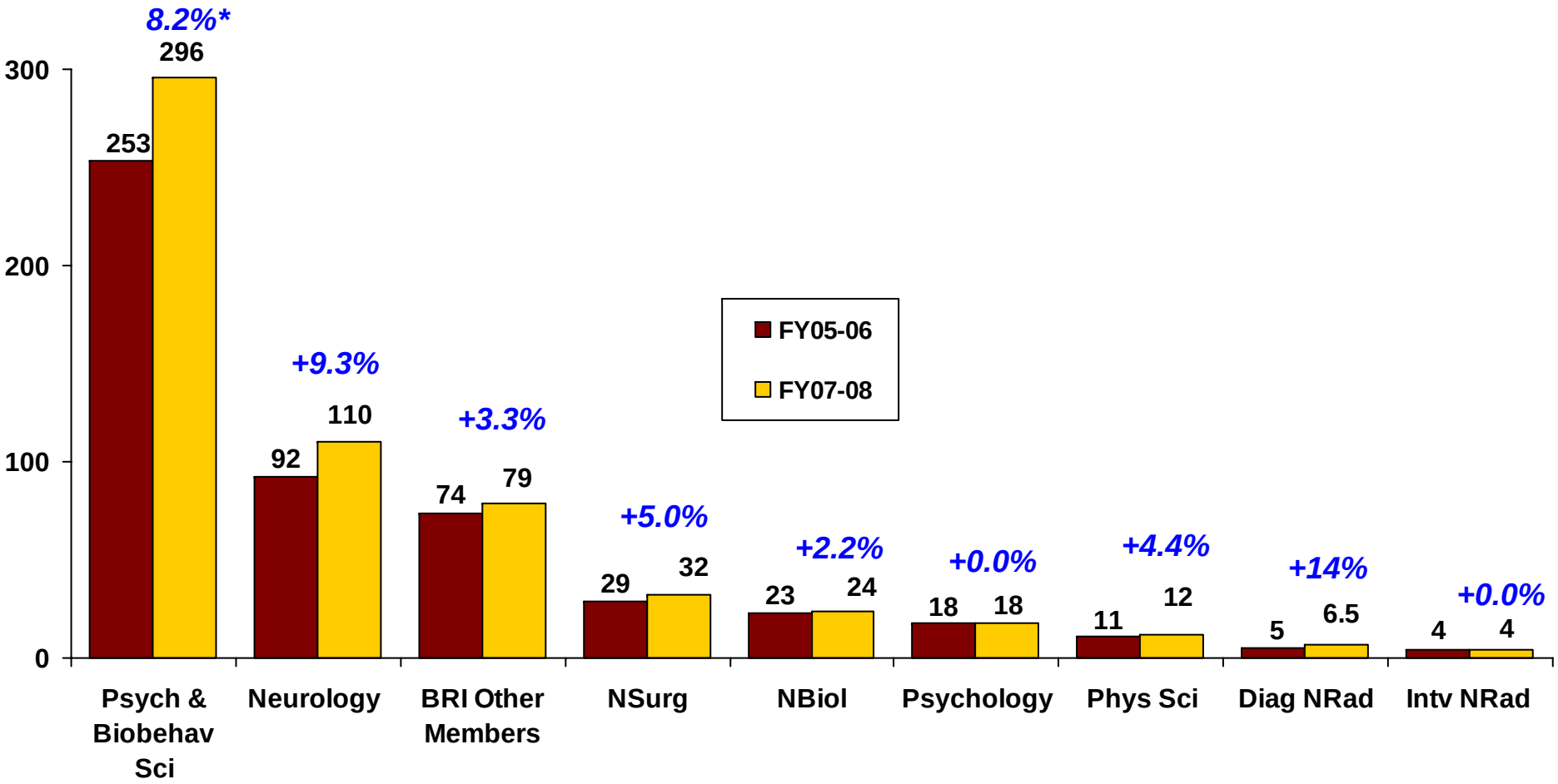
*Through this report the data for the BRI includes only information on faculty that are not counted in other departments listed. In the departments of Psychology and Physiological Sciences, only faculty engaged in neuroscience are counted.

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

The departments of Psychiatry & Biobehavioral Sciences, Neurology and Diagnostic Neuroradiology had the highest growth rates.

Total UCLA Neuroscience Faculty Headcount by Department / Division / Institute



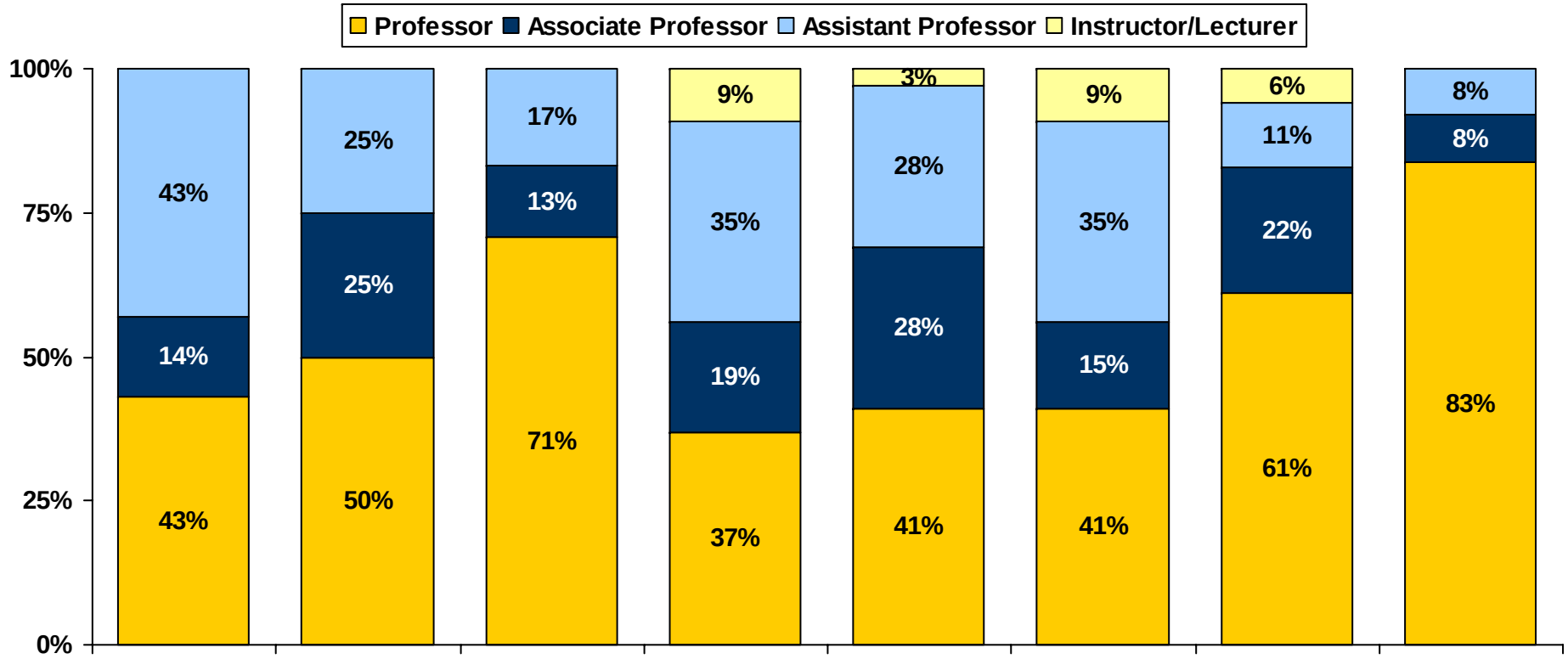
*Compound Annual Growth Rate (CAGR)

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

Psychology, Neurobiology and Physiological Science have the highest proportions of senior faculty with 61 to 83 percent full professors. In other departments, the proportion of full professors ranges from 34 to 50 percent.

UCLA Neuroscience *Faculty Distribution by Rank*, FY07-08



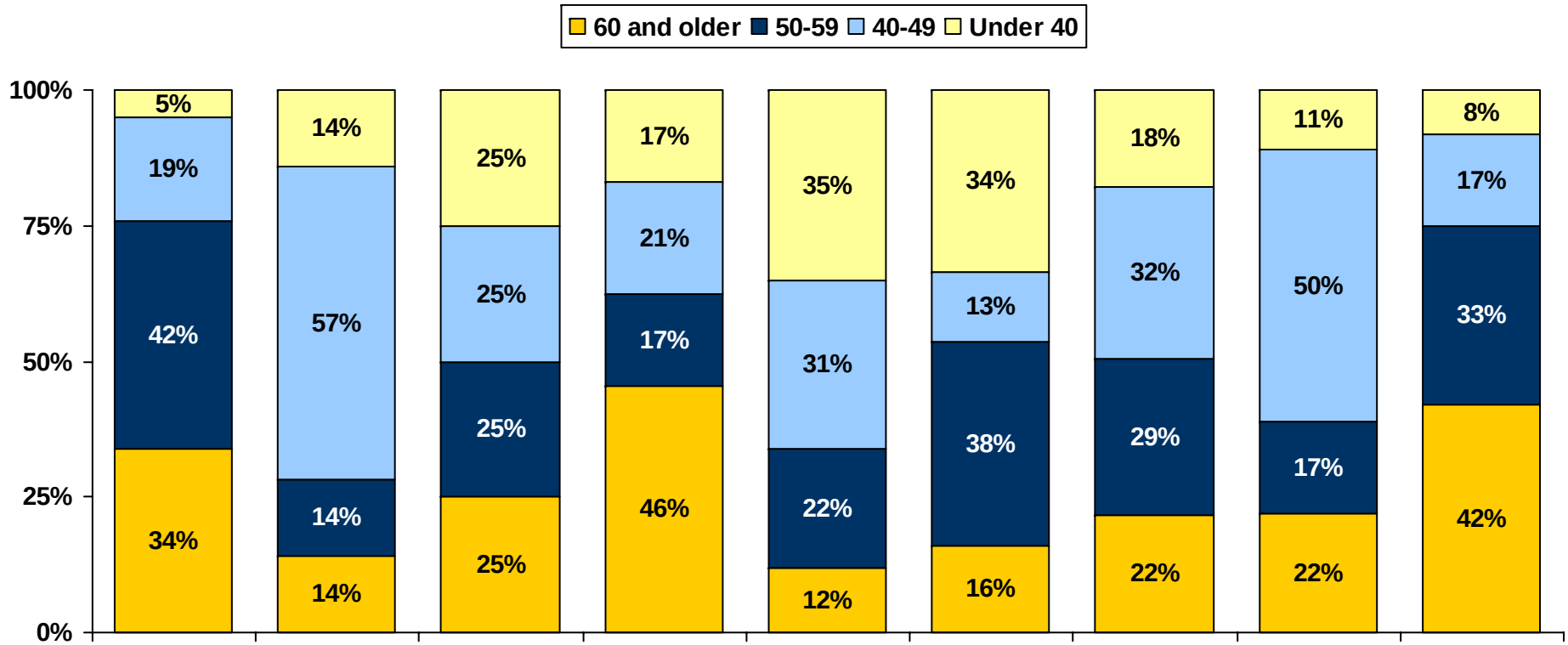
FACULTY HEADCOUNT	6.5	4	24	110	32	296	18	12

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

Neurobiology, physiological science and the BRI have the highest proportions of faculty aged 60 and older.

UCLA Neuroscience *Faculty Distribution by Age Group*, FY07-08

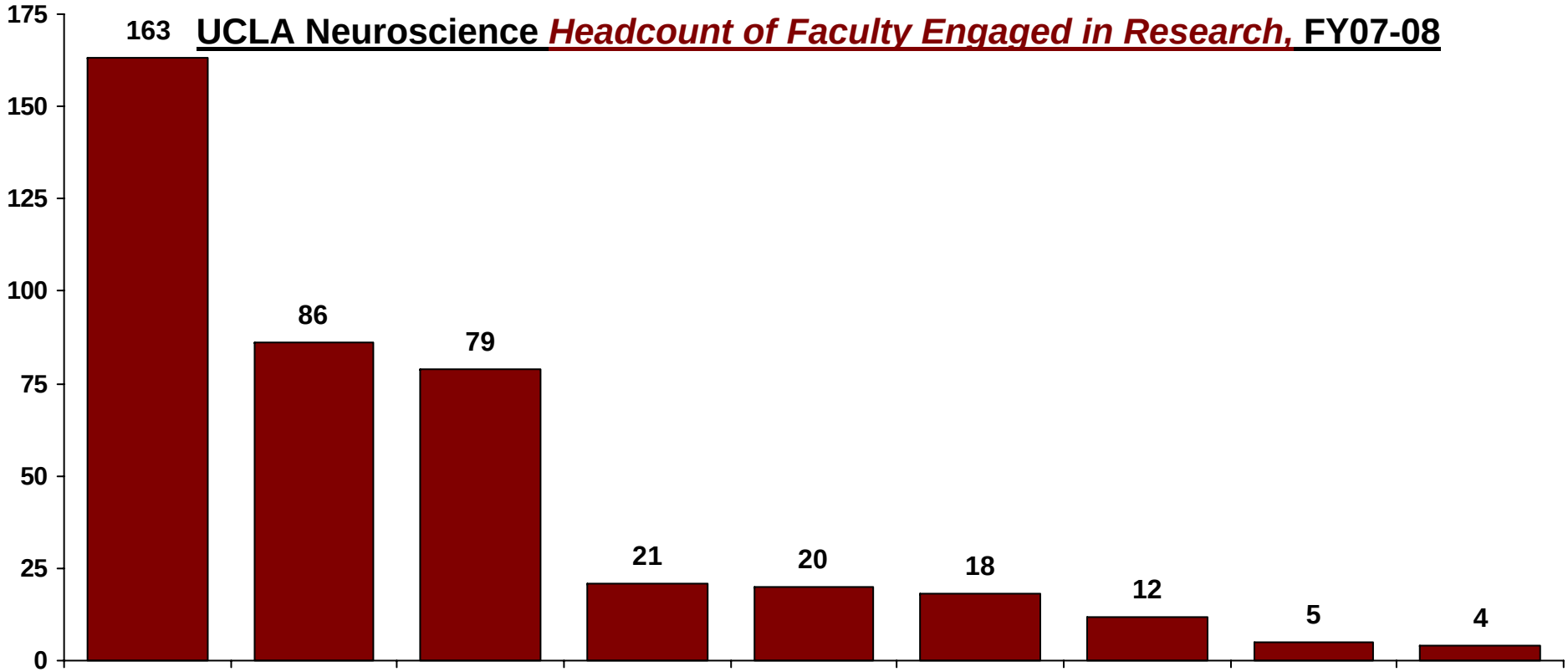


FACULTY HEADCOUNT	BRI Other Members	Diag NRad	Intv NRad	NBiol	Neurology	NSurg	Psych & Biobehav Sci	Psychology	Phys Sci
	79	6.5	4	24	110	32	296	18	12

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

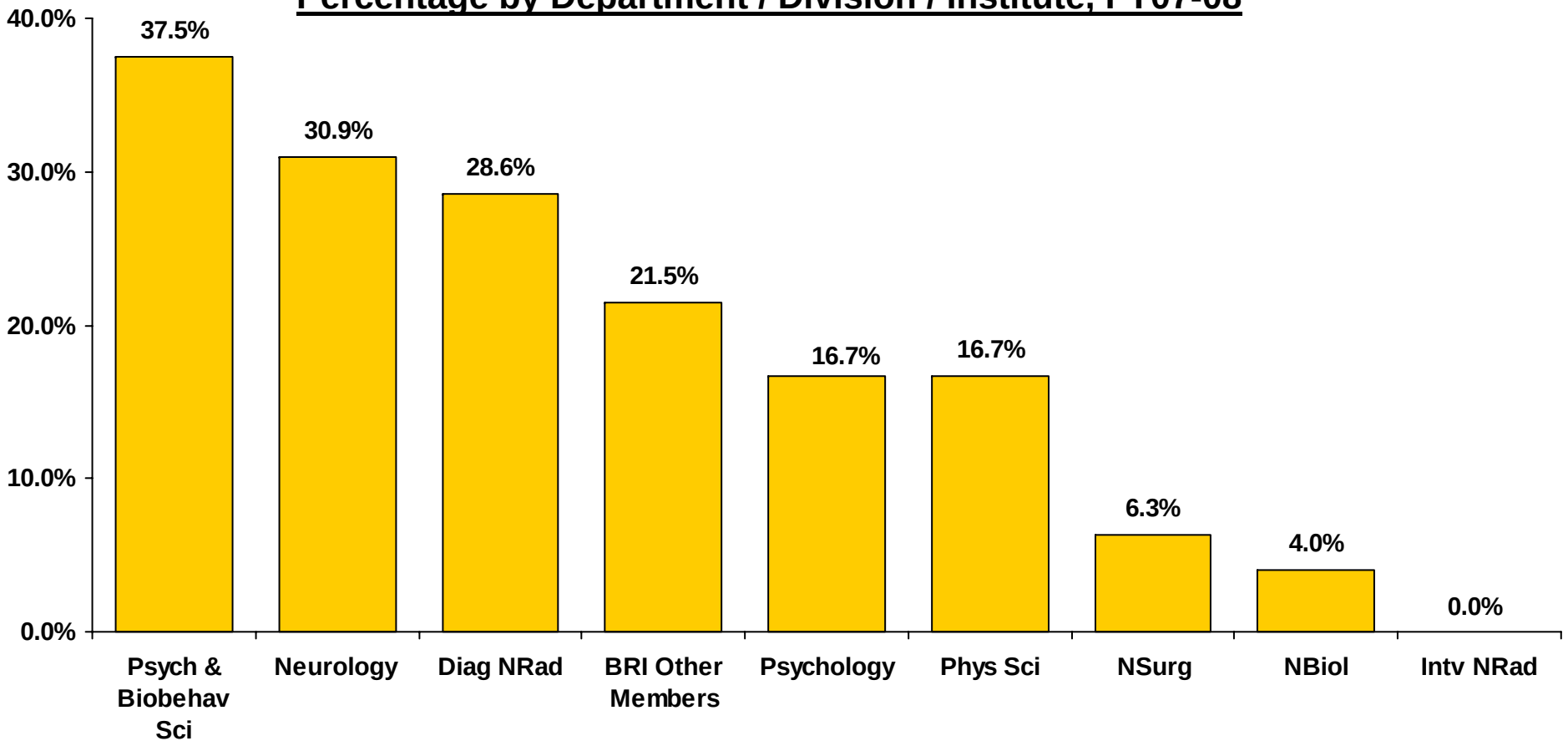
Most departments reported that more than three-quarters of their faculty are actively engaged in research. Psychiatry & Biobehavioral Sciences and Neurosurgery have somewhat lower percentages due to the size of their clinical practices.



Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

Psychiatry & Biobehavioral Sciences has the highest proportion of female faculty (37.5%) while Interventional Radiology has the lowest, with no female faculty members.

UCLA Neuroscience *Female Faculty*
Percentage by Department / Division / Institute, FY07-08



Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

Extramural Funds

UCLA Neuroscience Total Awards* by Department

Department	FY05-06	FY07-08	*CAGR*	FY07-08 % of Total
Psych & Biobehavi Sci	$ 101,215,170	$ 107,184,435	***2.9%***	54.2%
Neurology	40,316,975	58,294,358	***20.2%***	29.5%
Neurobiology	10,902,597	13,161,918	***9.9%***	6.7%
BRI Other Members	8,463,650	8,542,576	***0.5%***	4.3%
Neurosurgery	2,502,228	4,156,069	***28.9%***	2.1%
Psychology	1,734,906	3,458,164	***41.2%***	1.7%
Physiol Sci	3,694,330	2,736,778	***-13.9%***	1.4%
Intrvntl NRadiol	367,703	153,239	***-35.4%***	0.1%
Neuroradiology	0	30,300	***n/a***	0.0%
Grand Total	***$ 169,197,559***	***$ 197,717,837***	***8.1%***	***100.0%***

* Includes total direct and indirect costs; total amount of award is counted in the year in which it was awarded.

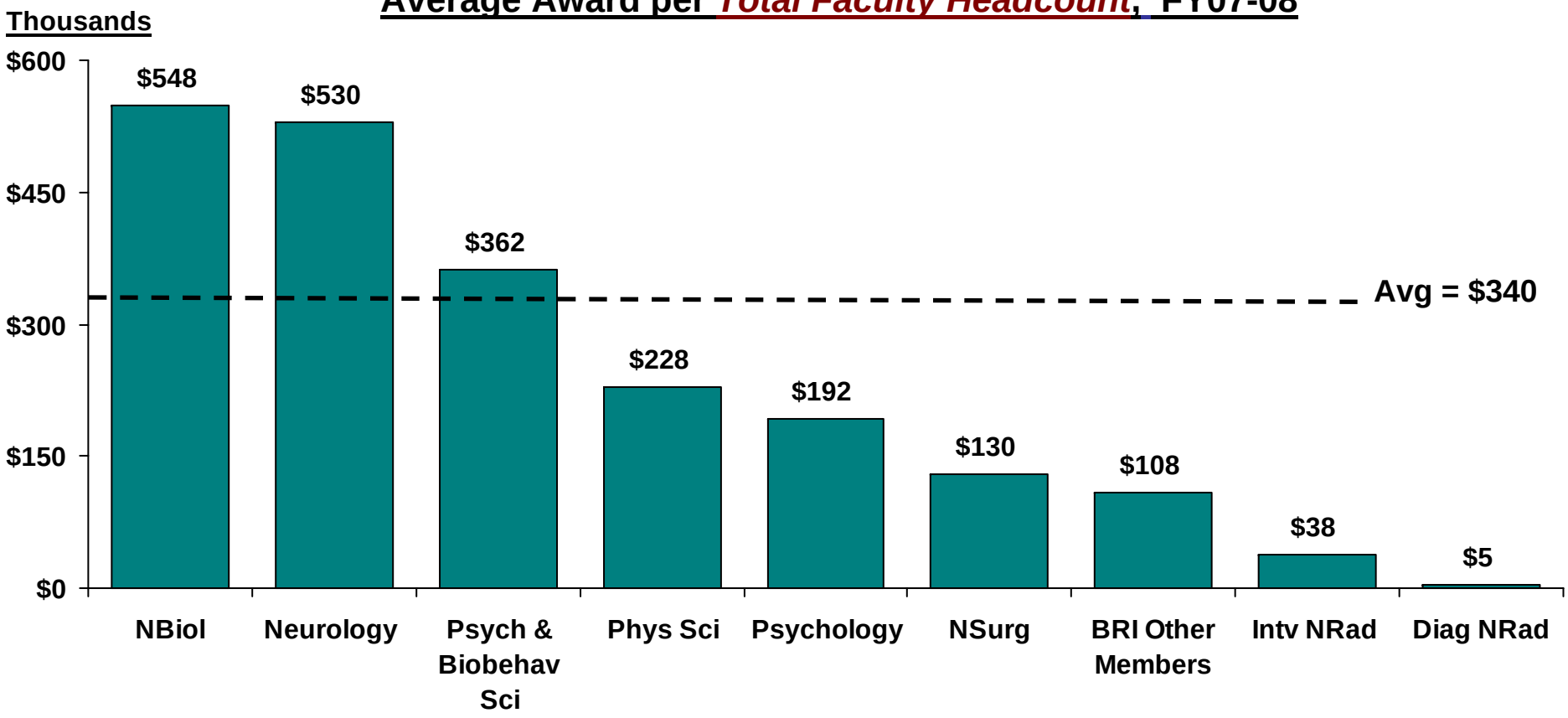
Source: UCLA School of Medicine Department of Finance and Administration, departments of Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

- **T**he departments' collective estimate of neuroscience funding totaled $198 million in FY07-08
- **T**his represents a compound annual growth rate of 8.1 percent over FY05-06, which is commensurate with the growth in faculty headcount.

UCLA Neuroscience Strategic Plan

UCLA neuroscience generates an average of $340,000 per faculty member.

UCLA Neuroscience
Average Award per *Total Faculty Headcount*, FY07-08



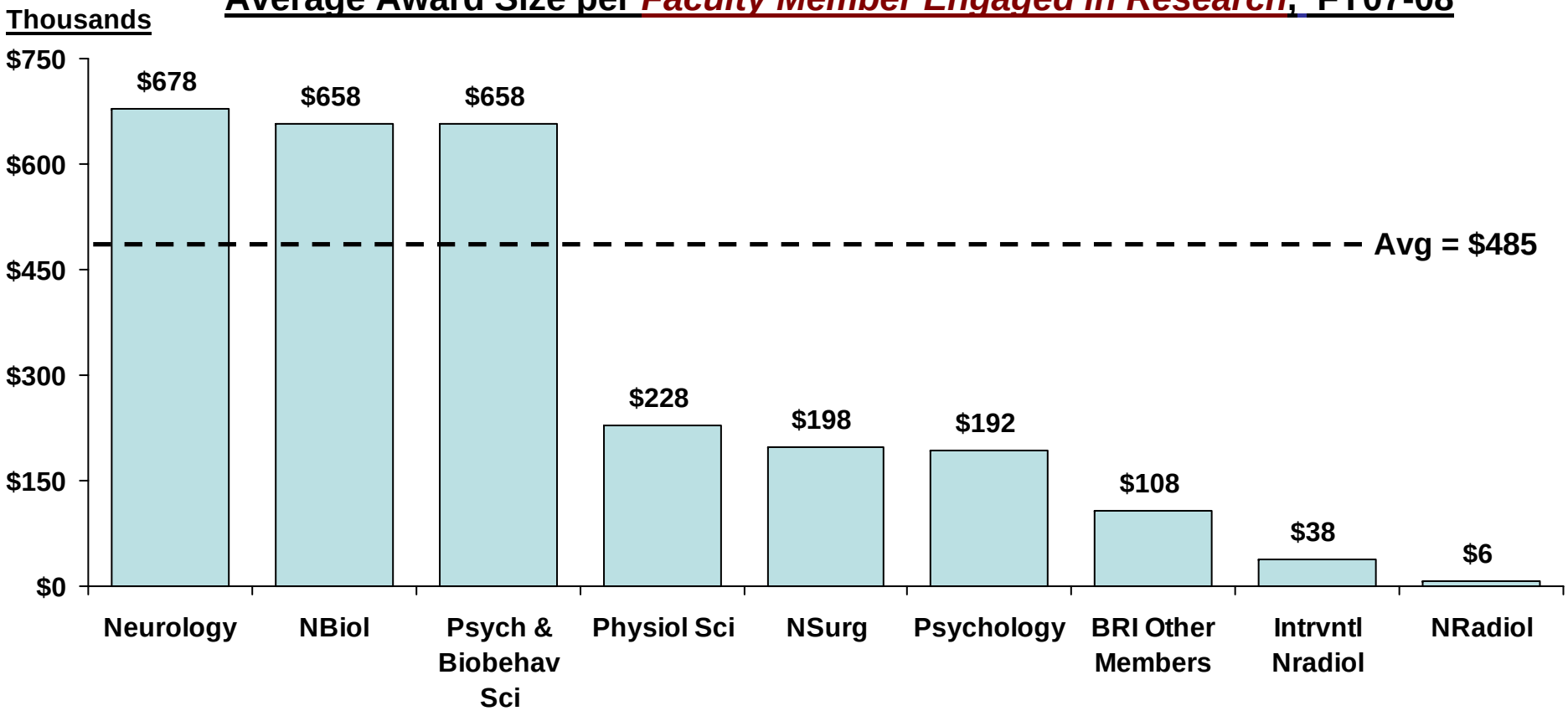
	NBiol	Neurology	Psych & Biobehav Sci	Phys Sci	Psychology	NSurg	BRI Other Members	Intv NRad	Diag NRad
Faculty Headcount	24	110	296	12	18	32	79	4	6.5

Source: Derived from data on pages 10 and 17.

UCLA Neuroscience Strategic Plan

The departments of Neurology, Neurobiology, and Psychiatry & Biobehavioral Sciences have average awards of between $658,000 and $678,000 per research active faculty member.

UCLA Neuroscience
Average Award Size per *Faculty Member Engaged in Research*, FY07-08



	Neurology	NBiol	Psych & Biobehav Sci	Physiol Sci	NSurg	Psychology	BRI Other Members	Intrvntl Nradiol	NRadiol
Research Faculty	86	20	163	12	21	18	79	4	5

Source: Refer to pages 13 and 17.

UCLA Neuroscience Strategic Plan

A search of NIH awards based on a combination of department names and keywords suggests that UCLA received at least $105 million in neuro-related NIH awards in 2008. Nineteen percent of the awards were not credited to an individual department and 11 departments accounted for another 78 percent of total awards.

UCLA NIH Awards with Neuro-Related Titles* by NIH Department Name

NIH DEPARTMENT NAME	2006	2008	CAGR	% of 2008 Total
NEUROLOGY***	$ 31,199,998	$ 35,289,184	***6.4%***	33%
NONE	17,213,287	19,882,660	***7.5%***	19%
PSYCHIATRY**	20,596,964	8,667,194	***-35.1%***	8%
PSYCHOLOGY	7,286,141	8,237,576	***6.3%***	8%
INTERNAL MEDICINE/MEDICINE	11,023,517	8,104,077	***-14.3%***	8%
NEUROSCIENCES		7,952,840	***n/a***	8%
NEUROSURGERY		3,421,509	***n/a***	3%
PHYSIOLOGY	4,204,486	3,393,475	***-10.2%***	3%
CHEMISTRY		2,310,000	***n/a***	2%
PHARMACOLOGY	2,901,908	2,247,480	***-12.0%***	2%
PEDIATRICS	3,388,433	1,751,082	***-28.1%***	2%
PUBLIC HEALTH & PREV MEDICINE	905,547	1,534,642	***30.2%***	1%
ALL OTHER	7,438,434	2,791,594	***-38.7%***	3%
TOTAL	**$ 106,158,715**	**$ 105,583,313**	**-0.3%**	**100%**

*Selected all grants in departments of neuroscience, neurology, neurosurgery, psychiatry and psychology plus any grant that included the following strings in the title: *neur, brain, cereb, nervous, nerve, Mental, psych, spinal, spine, stroke, fMRI, memory, cognitive, epilepsy, dementia, alzheimer, parkinson, autis, multiple sclerosis, schizophrenia, depression, bipolar, behavior, nerve, synap.*

** Psychiatry & Biobehavioral Sciences awards are understated because grants are processed through the Semel Institute and thus fall under the "NONE" category above. However, the "NONE" category includes awards from other departments as well.

*** Includes Neurology & Neurobiology.

Source: Analysis of NIH data. (excludes contracts)

UCLA Neuroscience Strategic Plan

The sum of NIH awards to the departments highlighted throughout this report provides a different perspective. Total awards to these departments represent about 75 percent of the total on the preceding slide. See the following slides for a discussion of individual departmental trends and anomalies.

UCLA NIH Awards to Neuro-Related Departments

NIH DEPARTMENT NAME	2006	2008	CAGR	% of 2008 Total	% of 2008 UCLA Total
NEUROLOGY***	$ 31,199,998	$ 35,289,184	***6.4%***	45%	10%
PHYSIOLOGY*	15,045,659	14,799,747	***-0.8%***	19%	4%
PSYCHIATRY**	20,596,964	8,667,194	***-35.1%***	11%	2%
PSYCHOLOGY	7,286,141	8,237,576	***6.3%***	11%	2%
NEUROSCIENCES		7,952,840	***n/a***	10%	2%
NEUROSURGERY	2,005,751	3,421,509	***30.6%***	4%	1%
TOTAL	**$ 76,134,513**	**$ 78,368,050**	**1.5%**	**100%**	**22%**

*Includes Physiological Sciences (L&S) and Physiology (SOM).
**Psychiatry awards are understated because grants are processed through the Semel Institute.
*** Includes Neurology & Neurobiology/

Source: NIH Website; excludes contracts (N).

UCLA Neuroscience Strategic Plan

Top 20 Departments* of *Neurology* based on NIH Funding

2008 Rank	University	2006	2008	*CAGR*	% 2008 Total
1	UNIVERSITY OF CALIFORNIA LOS ANGELES	$ 31,199,998	$ 35,289,184	*6.4%*	8.7%
2	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	27,098,548	31,353,590	*7.6%*	7.7%
3	JOHNS HOPKINS UNIVERSITY	28,727,267	24,259,227	*-8.1%*	6.0%
4	WASHINGTON UNIVERSITY	16,224,513	23,012,936	*19.1%*	5.7%
5	COLUMBIA UNIVERSITY HEALTH SCIENCES	27,096,459	20,899,505	*-12.2%*	5.2%
6	UNIVERSITY OF ROCHESTER	14,368,469	18,170,759	*12.5%*	4.5%
7	MOUNT SINAI SCHOOL OF MEDICINE OF NYU	9,287,114	13,094,245	*18.7%*	3.2%
8	UNIVERSITY OF PENNSYLVANIA	13,889,709	12,525,813	*-5.0%*	3.1%
9	UNIVERSITY OF CINCINNATI	8,365,906	12,214,797	*20.8%*	3.0%
10	EMORY UNIVERSITY	10,730,495	12,201,143	*6.6%*	3.0%
11	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	12,495,600	10,614,546	*-7.8%*	2.6%
12	OREGON HEALTH AND SCIENCE UNIVERSITY	9,585,202	10,392,590	*4.1%*	2.6%
13	STANFORD UNIVERSITY	8,420,537	10,159,860	*9.8%*	2.5%
14	BOSTON UNIVERSITY MEDICAL CAMPUS	13,520,513	10,067,448	*-13.7%*	2.5%
15	NEW YORK UNIVERSITY	7,870,650	8,535,567	*4.1%*	2.1%
16	WEILL MEDICAL COLLEGE OF CORNELL UNIV	9,458,330	8,484,636	*-5.3%*	2.1%
17	NORTHWESTERN UNIVERSITY	7,569,372	8,044,324	*3.1%*	2.0%
18	UNIVERSITY OF MICHIGAN AT ANN ARBOR	6,475,381	7,336,330	*6.4%*	1.8%
19	UNIVERSITY OF MIAMI SCHOOL OF MEDICINE	3,905,477	6,213,629	*26.1%*	1.5%
20	UNIVERSITY OF NORTH CAROLINA CHAPEL HILL	2,324,887	6,135,475	*62.5%*	1.5%
	Top 20 Total	**$268,614,427**	**$289,005,604**	*3.7%*	
	Top 20 Departments Percent of Total	**68.7%**	**71.3%**		
	All Departments of Neurology Total	**$391,157,690**	**$405,481,794**	*1.8%*	

- **U**CLA Neurology had $35 million in NIH funding in 2008, maintaining its position as the top-funded department of Neurology in the country.

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
Source: NIH Website; excludes contracts (N).

UCLA Neuroscience Strategic Plan

Top 20 Departments* of *Neurosciences* based on NIH Funding

2008 Rank	University	2006	2008	CAGR	% 2008 Total
1	UNIVERSITY OF CALIFORNIA SAN DIEGO	$32,430,151	$37,440,271	*7.4%*	15.4%
2	JOHNS HOPKINS UNIVERSITY	$14,752,043	$19,594,818	*15.3%*	8.0%
3	MEDICAL UNIVERSITY OF SOUTH CAROLINA	$8,865,325	$15,155,406	*30.7%*	6.2%
4	MOUNT SINAI SCHOOL OF MEDICINE OF NYU	$5,606,316	$15,108,330	*64.2%*	6.2%
5	OREGON HEALTH AND SCIENCE UNIVERSITY	$25,181,155	$14,047,185	*-25.3%*	5.8%
6	YALE UNIVERSITY	$8,436,140	$12,942,054	*23.9%*	5.3%
7	UNIVERSITY OF PENNSYLVANIA	$9,069,717	$10,780,605	*9.0%*	4.4%
8	UNIVERSITY OF OREGON	$9,561,968	$9,362,052	*-1.1%*	3.8%
9	UNIVERSITY OF CALIFORNIA DAVIS	$6,094,585	$8,590,019	*18.7%*	3.5%
10	UNIVERSITY OF MINNESOTA TWIN CITIES	$9,723,479	$8,258,404	*-7.8%*	3.4%
11	YESHIVA UNIVERSITY	$11,412,041	$8,061,604	*-16.0%*	3.3%
12	UNIVERSITY OF CALIFORNIA LOS ANGELES	**	$7,952,840	*n/a*	3.3%
13	BROWN UNIVERSITY	$5,018,588	$7,130,196	*19.2%*	2.9%
14	TEMPLE UNIVERSITY	$4,517,118	$6,239,761	*17.5%*	2.6%
15	UNIVERSITY OF ALABAMA AT BIRMINGHAM	$2,536,619	$6,082,955	*54.9%*	2.5%
16	UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON	$7,404,434	$5,888,839	*-10.8%*	2.4%
17	UNIVERSITY OF TEXAS MEDICAL BR GALVESTON	$5,929,337	$5,386,125	*-4.7%*	2.2%
18	RUSH UNIVERSITY MEDICAL CENTER	$4,325,597	$5,202,174	*9.7%*	2.1%
19	GEORGETOWN UNIVERSITY	$5,307,339	$5,098,670	*-2.0%*	2.1%
20	TUFTS UNIVERSITY BOSTON	$2,152,197	$4,747,838	*48.5%*	1.9%
	Top 20 Total	$178,324,149	$213,070,146	*9.3%*	
	Top 20 Departments Percent of Total	73.2%	87.5%		
	All Departments of Neurosciences Total	*$243,642,443*	*$243,642,443*	*0.0%*	

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
Source: NIH Website; excludes contracts (N).

- **A**lthough UCLA does not have a formally organized Neurosciences Department, in 2008 twenty-three grants were captured in this NIH category which resulted in a ranking of 12th in 2008.
- **A** scan of the grants in 2008 compared to 2006 suggests that the grants were formerly included under Biology.

Top 20 Departments* of *Neurosurgery* based on NIH Funding

2008 Rank	University	2006	2008	CAGR	% 2008 Total
1	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	$ 8,415,377	$ 13,359,067	26.0%	16.0%
2	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	5,348,464	6,254,822	8.1%	7.5%
3	YALE UNIVERSITY	6,422,021	5,848,576	-4.6%	7.0%
4	STANFORD UNIVERSITY	5,706,135	5,287,001	-3.7%	6.3%
5	UNIVERSITY OF LOUISVILLE	4,259,274	4,425,191	1.9%	5.3%
6	UNIVERSITY OF ROCHESTER	2,251,400	4,343,770	38.9%	5.2%
7	UNIVERSITY OF TEXAS HLTH SCI CTR HOUSTON	2,011,560	4,240,725	45.2%	5.1%
8	UNIVERSITY OF WASHINGTON	2,896,784	3,808,255	14.7%	4.6%
9	UNIVERSITY OF CALIFORNIA LOS ANGELES**	2,005,751	3,421,509	30.6%	4.1%
10	UNIVERSITY OF PENNSYLVANIA	1,169,862	3,400,805	70.5%	4.1%
11	UNIVERSITY OF MIAMI SCHOOL OF MEDICINE	3,800,351	3,309,011	-6.7%	4.0%
12	EMORY UNIVERSITY	651,382	1,967,746	73.8%	2.4%
13	UNIVERSITY OF SOUTH FLORIDA	2,203,936	1,830,259	-8.9%	2.2%
14	UNIVERSITY OF TEXAS MD ANDERSON CAN CTR	1,423,446	1,518,426	3.3%	1.8%
15	BAYLOR COLLEGE OF MEDICINE	2,331,895	1,513,490	-19.4%	1.8%
16	UNIVERSITY OF CALIFORNIA DAVIS	720,449	1,459,080	42.3%	1.8%
17	OHIO STATE UNIVERSITY	1,275,766	1,387,193	4.3%	1.7%
18	UNIVERSITY OF MICHIGAN AT ANN ARBOR	1,258,362	1,258,703	0.0%	1.5%
19	WASHINGTON UNIVERSITY	1,134,390	1,232,621	4.2%	1.5%
20	CASE WESTERN RESERVE UNIVERSITY	141,048	1,157,531	186.5%	1.4%
	Top 20 Total	$55,427,653	$71,023,781	13.2%	
	Top 20 Departments Percent of Total	77.3%	85.2%		
	All Departments of Neurosurgery Total	*$71,714,375*	*$83,318,422*	*7.8%*	

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
** UCLA Neurosurgery was reported under Surgery in 2006. Amount reported here is total awards to Neurosurgery faculty.

Source: NIH Website; excludes contracts (N).

- In 2008, grants to Neurosurgery faculty reported in the Department of Surgery totaled $3.4 million.
- Grant funding increased by 30.6 percent compounded annually between 2006 and 2008, and UCLA neurosurgery ranked 9th in NIH funding in 2008.

Top 20 Departments* of *Physiology* Based on NIH Funding

2008 Rank	University	2006	2008	CAGR	% 2008 Total
1	VANDERBILT UNIVERSITY	$ 29,605,761	$ 22,665,239	-12.5%	4.5%
2	UNIVERSITY OF PENNSYLVANIA	16,411,990	20,666,191	12.2%	4.1%
3	YALE UNIVERSITY	14,161,702	17,814,132	12.2%	3.5%
4	COLUMBIA UNIVERSITY HEALTH SCIENCES	16,551,653	16,966,698	1.2%	3.3%
5	UNIVERSITY OF CALIFORNIA LOS ANGELES	15,045,659	14,799,747	-0.8%	2.9%
6	WAKE FOREST UNIVERSITY HEALTH SCIENCES	11,533,621	13,165,413	6.8%	2.6%
7	UNIVERSITY OF VIRGINIA CHARLOTTESVILLE	11,734,491	12,055,545	1.4%	2.4%
8	OREGON HEALTH AND SCIENCE UNIVERSITY	10,995,035	12,045,384	4.7%	2.4%
9	UNIVERSITY OF MICHIGAN AT ANN ARBOR	10,598,458	11,395,392	3.7%	2.2%
10	UNIVERSITY OF CALIFORNIA SAN FRANCISCO	12,774,164	11,141,480	-6.6%	2.2%
11	MEDICAL COLLEGE OF WISCONSIN	17,127,068	11,116,104	-19.4%	2.2%
12	UNIVERSITY OF MARYLAND BALTIMORE	8,682,243	10,611,678	10.6%	2.1%
13	JOHNS HOPKINS UNIVERSITY	7,860,094	9,838,273	11.9%	1.9%
14	NORTHWESTERN UNIVERSITY	9,439,417	9,518,980	0.4%	1.9%
15	UNIVERSITY OF WASHINGTON	8,571,335	9,462,945	5.1%	1.9%
16	WEILL MEDICAL COLLEGE OF CORNELL UNIV	7,779,174	9,015,681	7.7%	1.8%
17	DARTMOUTH COLLEGE	8,815,881	8,517,045	-1.7%	1.7%
18	UNIVERSITY OF NORTH CAROLINA CHAPEL HILL	6,779,781	8,196,236	10.0%	1.6%
19	UNIVERSITY OF ALABAMA AT BIRMINGHAM	7,559,381	7,797,184	1.6%	1.5%
20	UNIVERSITY OF TEXAS SW MED CTR/DALLAS	8,457,039	7,501,910	-5.8%	1.5%
	Top 20 Total	$240,483,947	$244,291,257	0.8%	
	Top 20 Departments Percent of Total	45.5%	48.1%		
	All Departments of Neurosurgery Total	*$528,147,385*	*$507,431,790*	-2.0%	

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
Source: NIH Website; excludes contracts (N).

- The "Physiology" department classification in the NIH database includes both the Physiological Sciences department in the College of Letters and Science and the Physiology department in the School of Medicine.
- In 2008, UCLA Physiology ranked 5th in NIH funding.
- Not all of these grants, however, are Neuroscience-related grants.

Top 20 Departments* of *Psychiatry* based on NIH Funding

2008 Rank	University	2006	2008	CAGR	% 2008 Total
1	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	$ 72,646,783	$ 61,429,444	-8.0%	7.6%
2	YALE UNIVERSITY	52,407,589	53,101,863	0.7%	6.5%
3	UNIVERSITY OF PENNSYLVANIA	44,387,320	44,894,327	0.6%	5.5%
4	UNIVERSITY OF CALIFORNIA SAN DIEGO	34,854,093	40,582,610	7.9%	5.0%
5	JOHNS HOPKINS UNIVERSITY	31,756,249	33,328,125	2.4%	4.1%
6	DUKE UNIVERSITY	32,656,806	29,771,795	-4.5%	3.7%
7	WASHINGTON UNIVERSITY	27,840,151	28,763,281	1.6%	3.5%
8	UNIVERSITY OF NORTH CAROLINA CHAPEL HILL	12,328,144	21,852,360	33.1%	2.7%
9	EMORY UNIVERSITY	19,623,954	21,782,559	5.4%	2.7%
10	STANFORD UNIVERSITY	21,222,779	21,426,475	0.5%	2.6%
11	MOUNT SINAI SCHOOL OF MEDICINE OF NYU	22,639,601	19,914,800	-6.2%	2.5%
12	UNIVERSITY OF MICHIGAN AT ANN ARBOR	19,668,864	18,837,549	-2.1%	2.3%
13	COLUMBIA UNIVERSITY HEALTH SCIENCES	15,689,585	18,310,996	8.0%	2.3%
14	UNIVERSITY OF WASHINGTON	19,100,918	18,267,705	-2.2%	2.2%
15	MEDICAL UNIVERSITY OF SOUTH CAROLINA	14,994,677	17,815,827	9.0%	2.2%
16	UNIVERSITY OF CINCINNATI	14,044,322	17,077,964	10.3%	2.1%
17	UNIVERSITY OF ILLINOIS AT CHICAGO	14,227,695	16,878,861	8.9%	2.1%
18	UNIVERSITY OF IOWA	11,045,149	15,838,104	19.7%	1.9%
19	UNIVERSITY OF COLORADO DENVER	16,946,226	15,092,743	-5.6%	1.9%
20	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	11,345,087	14,986,769	14.9%	1.8%
32	UNIVERSITY OF CALIFORNIA LOS ANGELES	20,596,964	8,667,194	-35.1%	1.1%
	Top 20 Total	$ 509,425,992	$ 529,954,157	2.0%	
	Top 20 Departments Percent of Total	64.3%	65.2%		
	All Departments of Psychiatry Total	*$ 792,645,114*	*$ 812,781,448*	1.3%	

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
Source: NIH Website; excludes contracts (N).

- **A**wards to the UCLA's Department of Psychiatry & Biobehavioral Sciences are processed through the Semel Institute and thus are not grouped under Psychiatry by the NIH.
- **U**CLA Psychiatry experienced a large drop in NIH funding and ranking between 2006 and 2008, but it may be due to an increase in the number of grants being put through Semel.

UCLA Neuroscience Strategic Plan

Top 20 Departments* of *Psychology* based on NIH Funding

2008 Rank	University	2006	2008	CAGR	% 2008 Total
1	UNIVERSITY OF KENTUCKY	$ 9,506,565	$ 11,710,873	*11.0%*	2.7%
2	UNIVERSITY OF WASHINGTON	14,538,073	11,678,962	*-10.4%*	2.7%
3	UNIVERSITY OF WISCONSIN MADISON	11,000,517	10,282,028	*-3.3%*	2.3%
4	UNIVERSITY OF MINNESOTA TWIN CITIES	6,042,557	8,929,510	*21.6%*	2.0%
5	UNIVERSITY OF PITTSBURGH AT PITTSBURGH	4,670,057	8,535,802	*35.2%*	2.0%
6	SAN DIEGO STATE UNIVERSITY	5,200,945	8,478,341	*27.7%*	1.9%
7	BOSTON UNIVERSITY	7,627,319	8,305,526	*4.4%*	1.9%
8	UNIVERSITY OF CALIFORNIA LOS ANGELES	**7,286,141**	**8,237,576**	*6.3%*	1.9%
9	UNIVERSITY OF CONNECTICUT STORRS	7,345,762	8,089,769	*4.9%*	1.8%
10	UNIVERSITY OF COLORADO AT BOULDER	9,374,965	8,088,039	*-7.1%*	1.8%
11	EMORY UNIVERSITY	6,640,986	7,550,871	*6.6%*	1.7%
12	UNIVERSITY OF MIAMI CORAL GABLES	6,678,343	6,974,400	*2.2%*	1.6%
13	ARIZONA STATE UNIVERSITY-TEMPE CAMPUS	7,310,851	6,824,956	*-3.4%*	1.6%
14	INDIANA UNIVERSITY BLOOMINGTON	7,433,094	6,327,436	*-7.7%*	1.4%
15	STANFORD UNIVERSITY	5,761,093	6,179,988	*3.6%*	1.4%
16	BROWN UNIVERSITY	-	6,164,615	*n/a*	1.4%
17	UNIVERSITY OF IOWA	5,306,407	6,120,142	*7.4%*	1.4%
18	VANDERBILT UNIVERSITY	11,585,270	6,087,999	*-27.5%*	1.4%
19	UNIVERSITY OF VIRGINIA CHARLOTTESVILLE	3,943,291	6,050,362	*23.9%*	1.4%
20	UNIVERSITY OF MICHIGAN AT ANN ARBOR	5,689,388	5,626,044	*-0.6%*	1.3%
	Top 20 Total	**$142,941,624**	**$156,243,239**	*4.5%*	
	Top 20 Departments Percent of Total	**32.0%**	**35.7%**		
	All Departments of Neurosurgery Total	***$446,215,760***	***$437,582,137***	*-1.0%*	

- **U**CLA's Psychology department compares favorably to other universities across the country; it ranked 8th in NIH funding.

*The NIH no longer publishes departmental rankings; this list is an analysis of NIH data.
Source: NIH Website; excludes contracts (N).

Students & Trainees

UCLA Neuroscience Strategic Plan

UCLA has 138 students in neuroscience graduate programs and almost 3,000 undergraduates in neuroscience-related majors and minors.

Students by Program

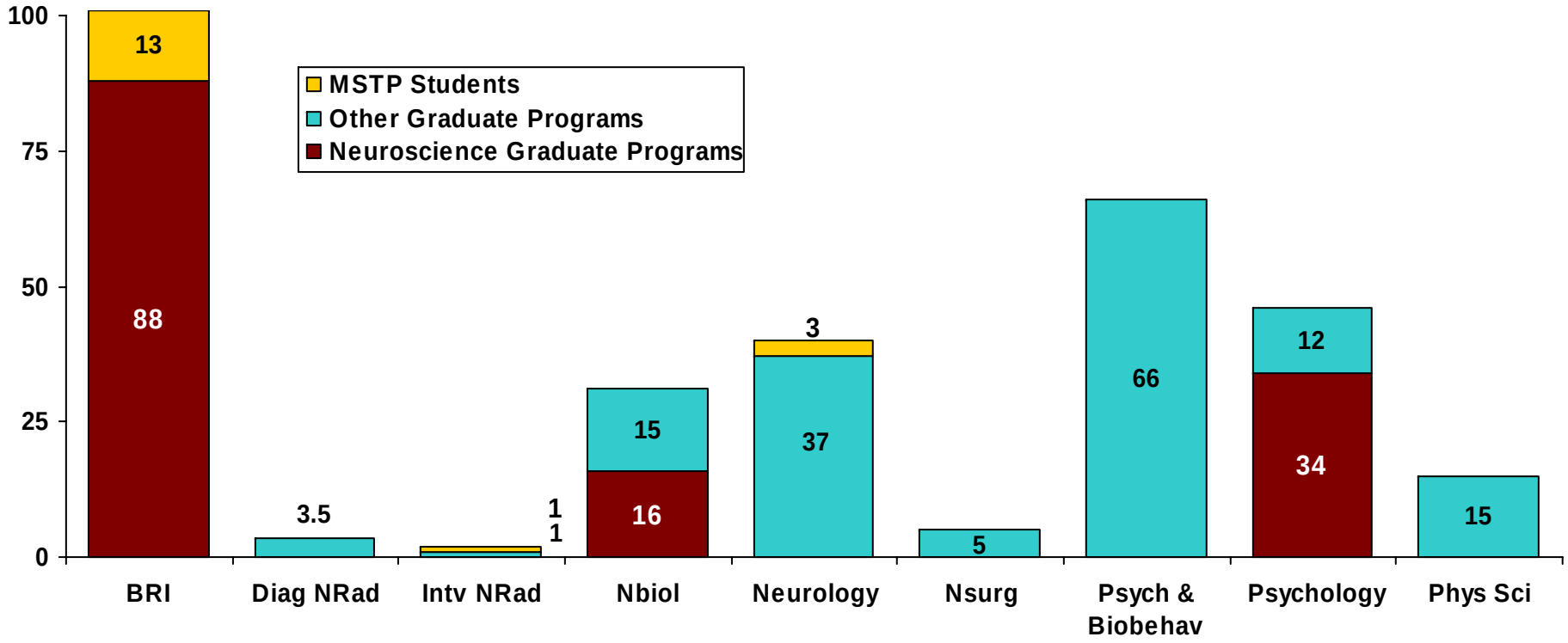
Graduate Students:	
BRI - Neuroscience Graduate IDP	88
Neurobiology	16
Psychology:	
- Behavioral Neuroscience	22
- Learning & Behavior	6
- Cognitive Psychology	6
Neuroscience Graduate Students - Total:	**138**
Undergraduate Students:	
Neuroscience Majors	495
Neuroscience Minors	28
Psychology	1,495
Psychobiology	881
Undergraduate Students - Total:	**2,899**

Source: UCLA Brain Research Institute (BRI); Department of Psychology

UCLA Neuroscience Strategic Plan

In addition to the138 students enrolled in neuroscience graduate programs, more than 170 other graduate students from across campus work in neuroscience laboratories.

Predoctoral Students Engaged in Neurosciences, 08-09

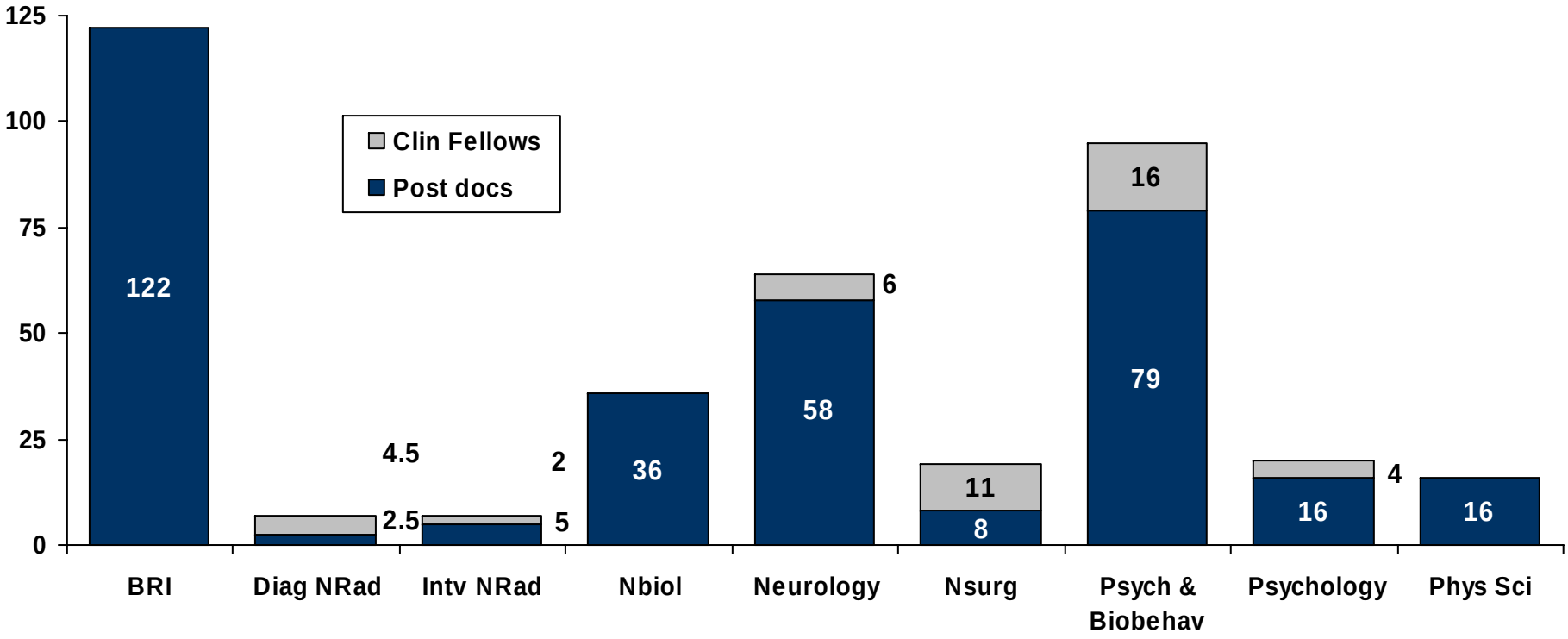


Source: UCLA Brain Research Institute (BRI), departments of Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

Nearly 400 post-docs and clinical fellows are also working in neuroscience at UCLA.

Post-Docs and Fellows Engaged in Neuroscience, 08-09

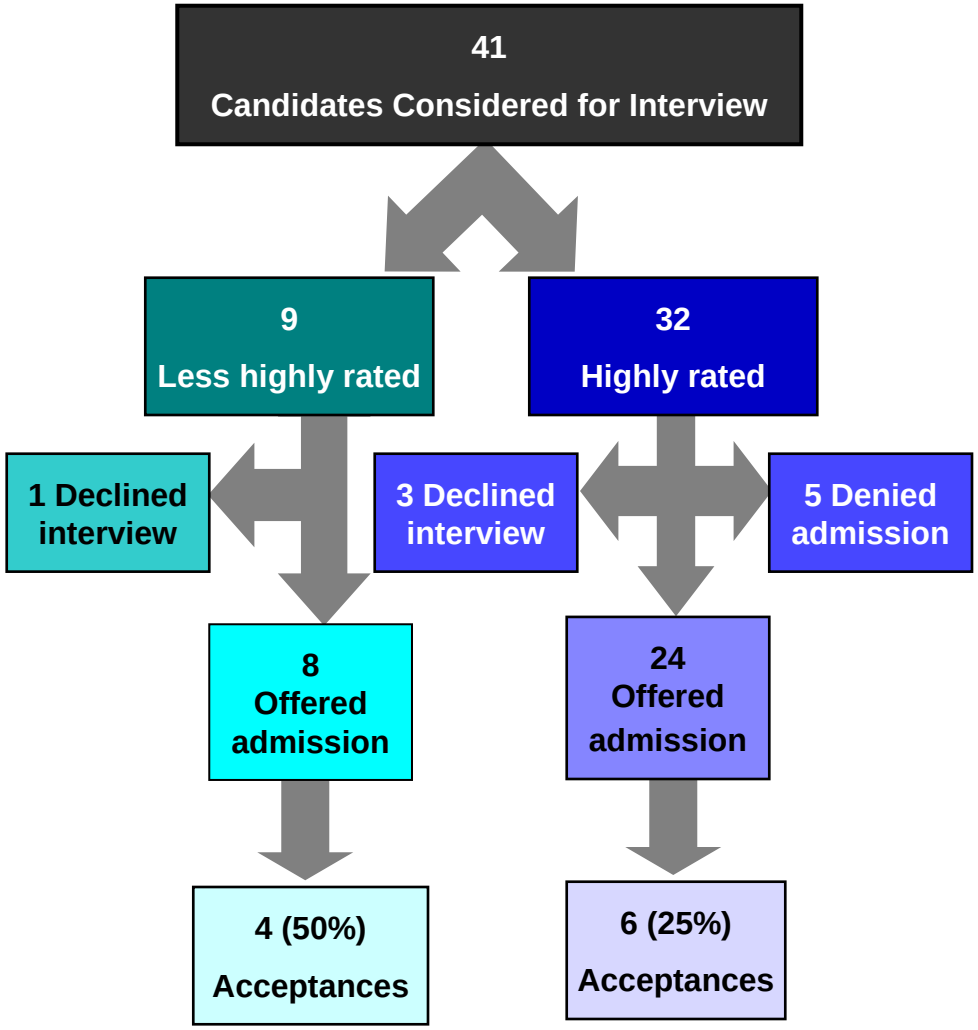


Source: UCLA Brain Research Institute (BRI), departments of Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

UCLA Neuroscience Strategic Plan

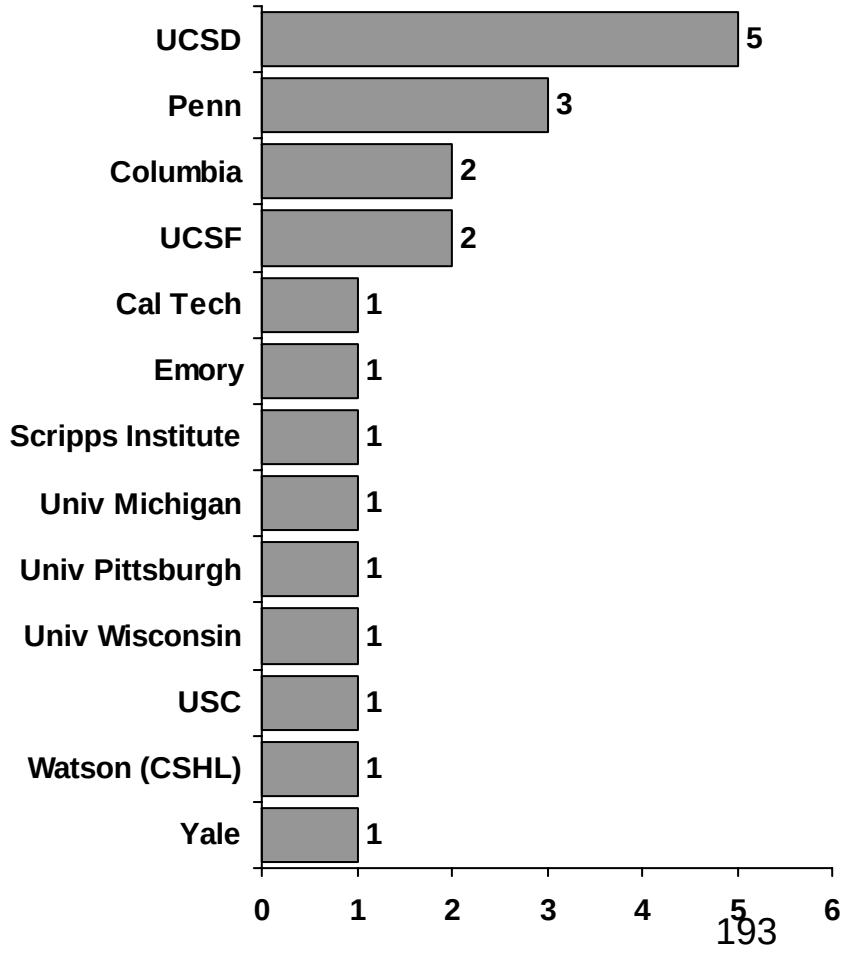
In 2009, 25 percent of highly-rated candidates accepted offers to UCLA's IDP program.

Results of 2009 IDP Graduate Admissions Process



Source: UCLA Brain Research Institute

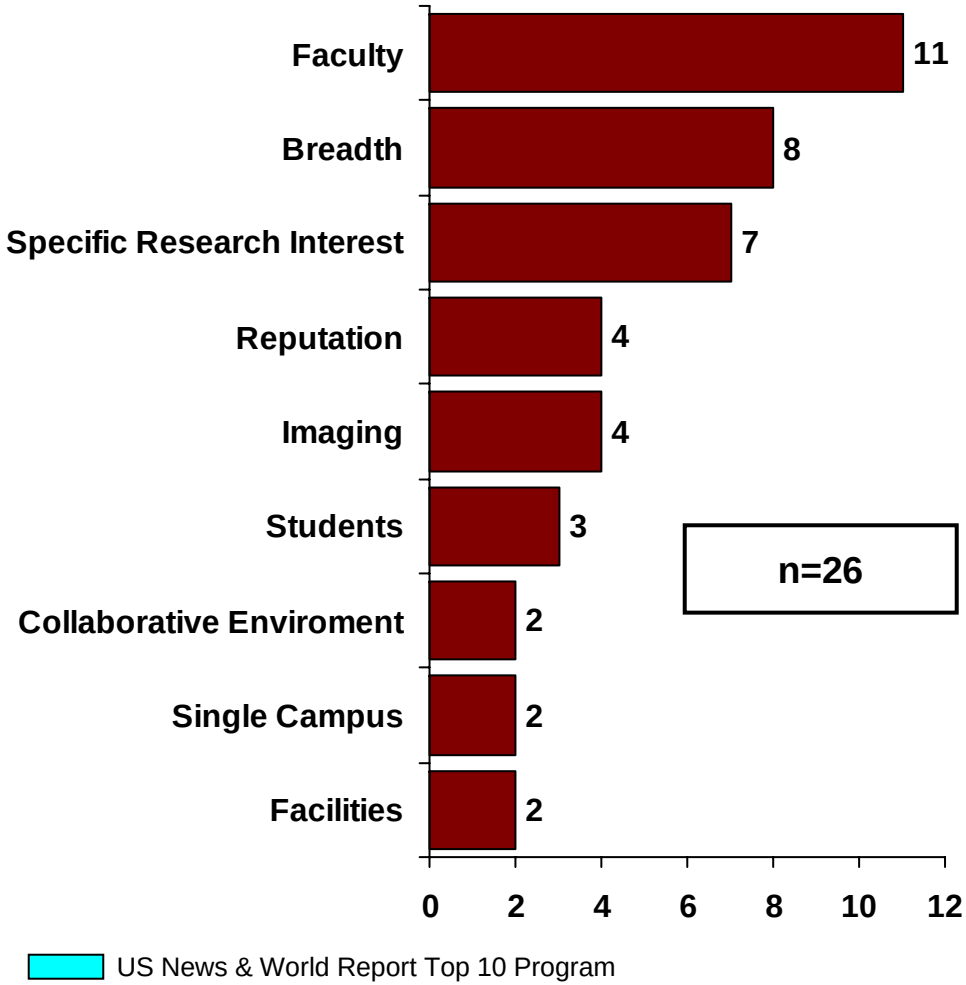
School Attended by Those Who Declined Admission Offers



UCLA Neuroscience Strategic Plan

A survey of current IDP students found that faculty and the breadth of research was a major factor in their decision to come to UCLA.

IDP Students' Reasons for Coming to UCLA



Source: UCLA Brain Research Institute Student Survey

Other Schools Where Students Were Admitted	Total
UC Irvine	7
USC	5
Emory	3
Northwestern	3
Penn	3
Albert Einstein	2
Cornell University	2
None	2
NYU	2
Only applied to UCLA	2
Rutgers	2
UNC Chapel Hill	2
UC Davis	2
UC San Diego	2
Washington Univ St. Louis	2
Boston University	1
Carnegie Mellon	1
Cornell University	1
Dartmouth	1
Mayo Clinic	1
Purdue	1
UC Berkeley	1
UC Santa Barbara	1
UCSF	1
Univ Arizona	1
Univ Hawaii	1
Univ Illinois	1
Univ of Chicago	1
Univ Pittsburgh	1
University of Maryland	1
University of Michigan	1
University of Pittsburgh	1
University of Washington	1
University of Wisconsin	1
Vanderbilt	1
Yale	1

UCLA Neuroscience Strategic Plan

According to internal data, UCLA has 19 neuroscience training grants supporting 84 trainees.

UCLA Neuroscience Training Grants by Department*

	BRI	Neurobiology	Psychiatry & Biobehavioral Sciences	Psychology	Total
# of Grants	5	1	10	3	**19**
Pre-Docs	11	2	12	8	**33**
Post-Docs	11	2	29	9	**51**
Annual Direct Costs	$939,784	$204,178	$1,896,991	$730,914	**$3,771,867**

*Departments without grants are not shown

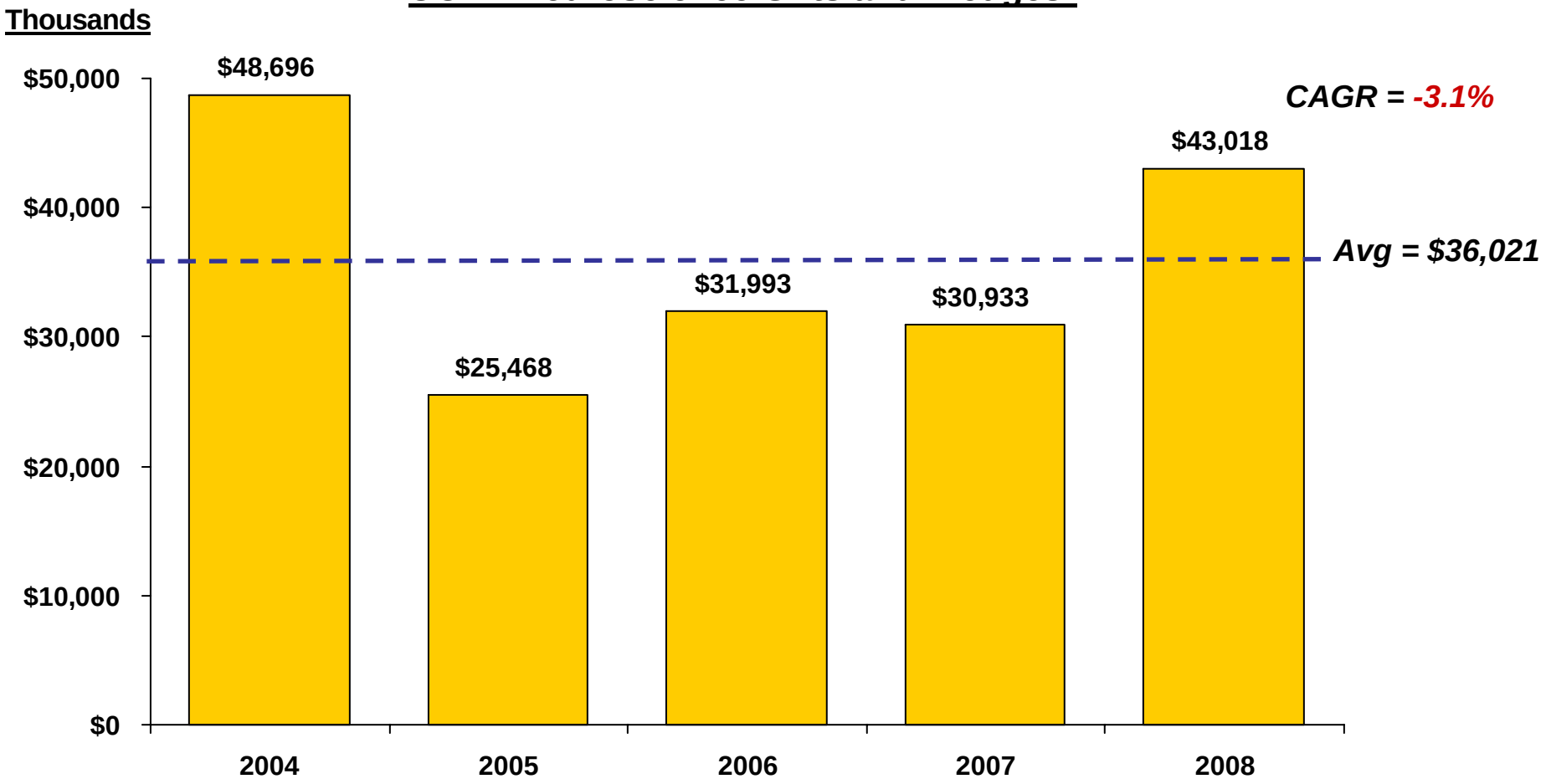
Source: UCLA Assistant Dean of Life Sciences

Resources

UCLA Neuroscience Strategic Plan

Between 2004 and 2008, UCLA garnered an average of $36 million dollars per year in gifts and pledges to neuroscience-related departments.

UCLA Neuroscience Gifts and Pledges*



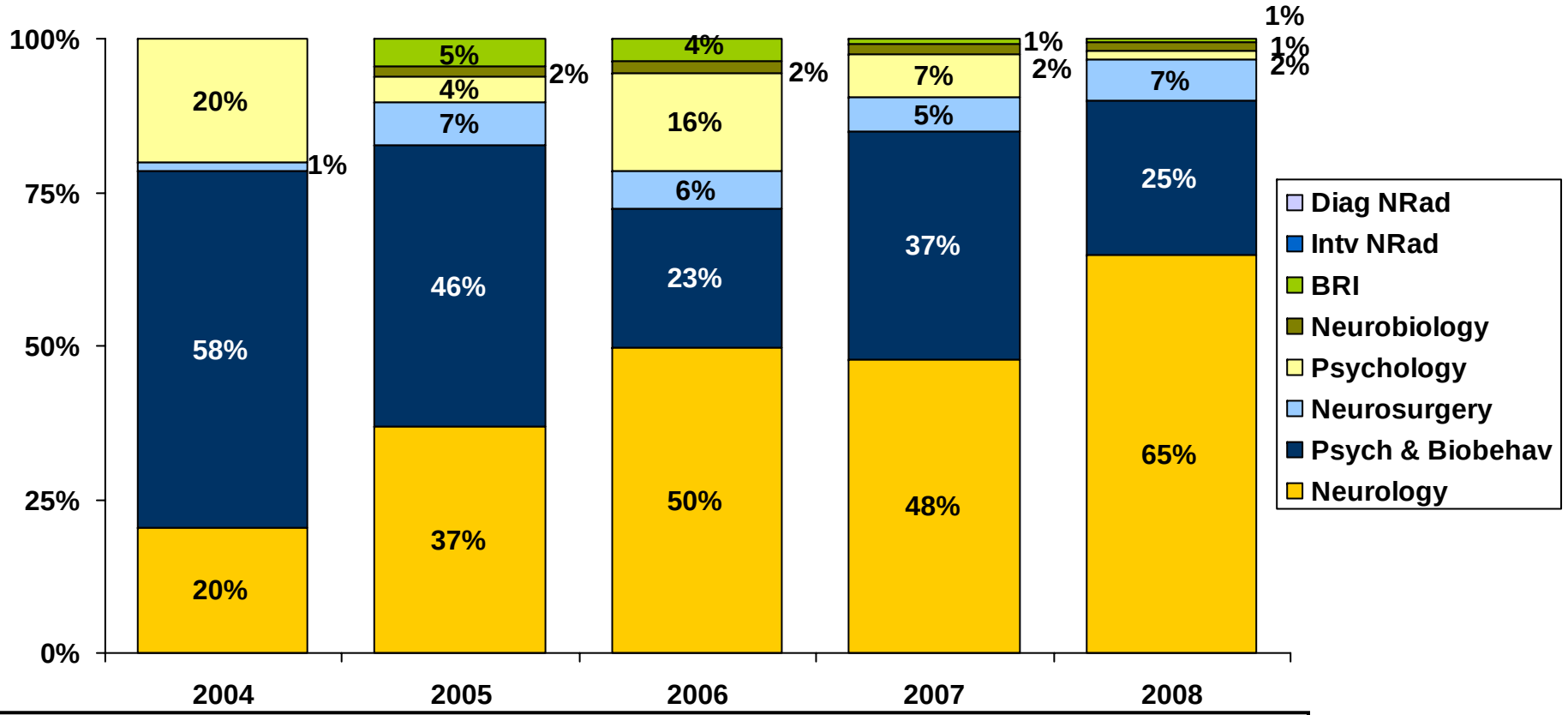
*The total value of a gifts or pledge is attributed to the year that the gift or pledge was made. Excludes gifts to Physiological Sciences for Neuroscience because they cannot be separately identified.

Source: UCLA Office of Development, Departments of Psychology, Physiological Sciences, Neurosurgery, Divisions of Diagnostic Neuroradiology and Interventional Neuroradiology.

UCLA Neuroscience Strategic Plan

The largest share of gifts and pledges are made to Psychiatry & Biobehavioral Sciences and Neurology.

UCLA Neuroscience Distribution of Gifts and Pledges by Department



	2004	2005	2006	2007	2008
Total ($000s)	$48,696	$25,468	$31,993	$30,933	$43,018

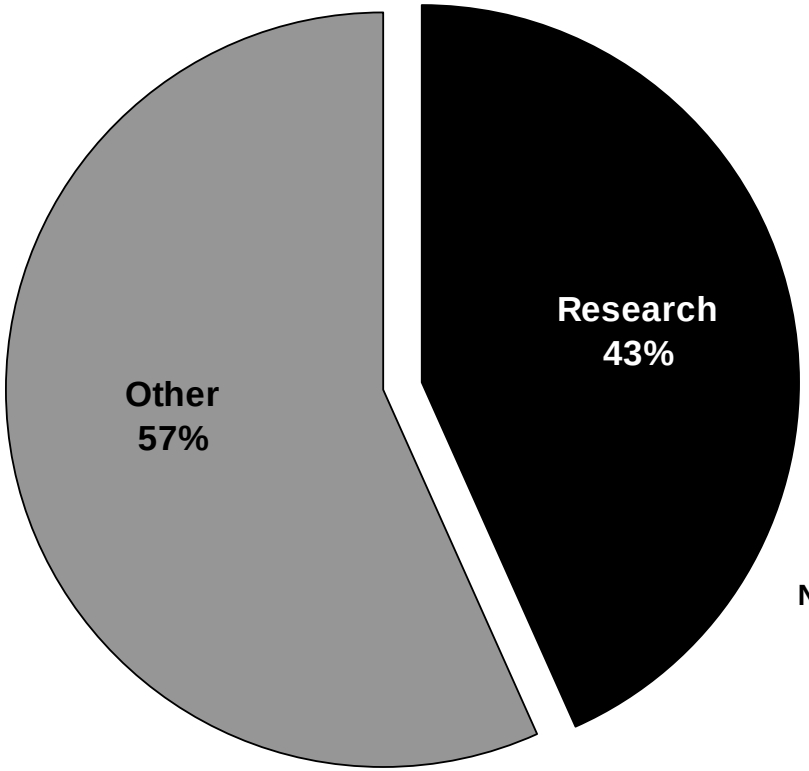
*The total value of a gifts or pledge is attributed to the year that the gift or pledge was made. Excludes gifts to Physiological Sciences for Neuroscience because they cannot be separately identified.

Source: UCLA Office of Development, Departments of Psychology, Physiological Sciences, Neurosurgery, Divisions of Diagnostic Neuroradiology and Interventional Neuroradiology.

UCLA Neuroscience Strategic Plan

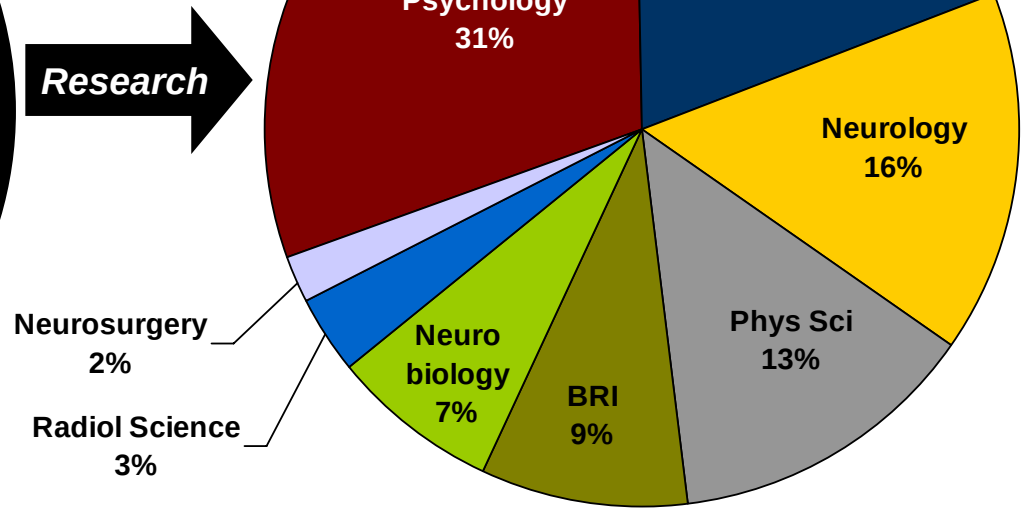
Forty-three percent of the 541,926 net square feet of space devoted to neuroscience departments is designated as research space. Psychology's space represents 31 percent of the total research space.

Neuroscience Space by Function



541,926 NSF

Neuroscience Research Space by Department



235,433 NSF

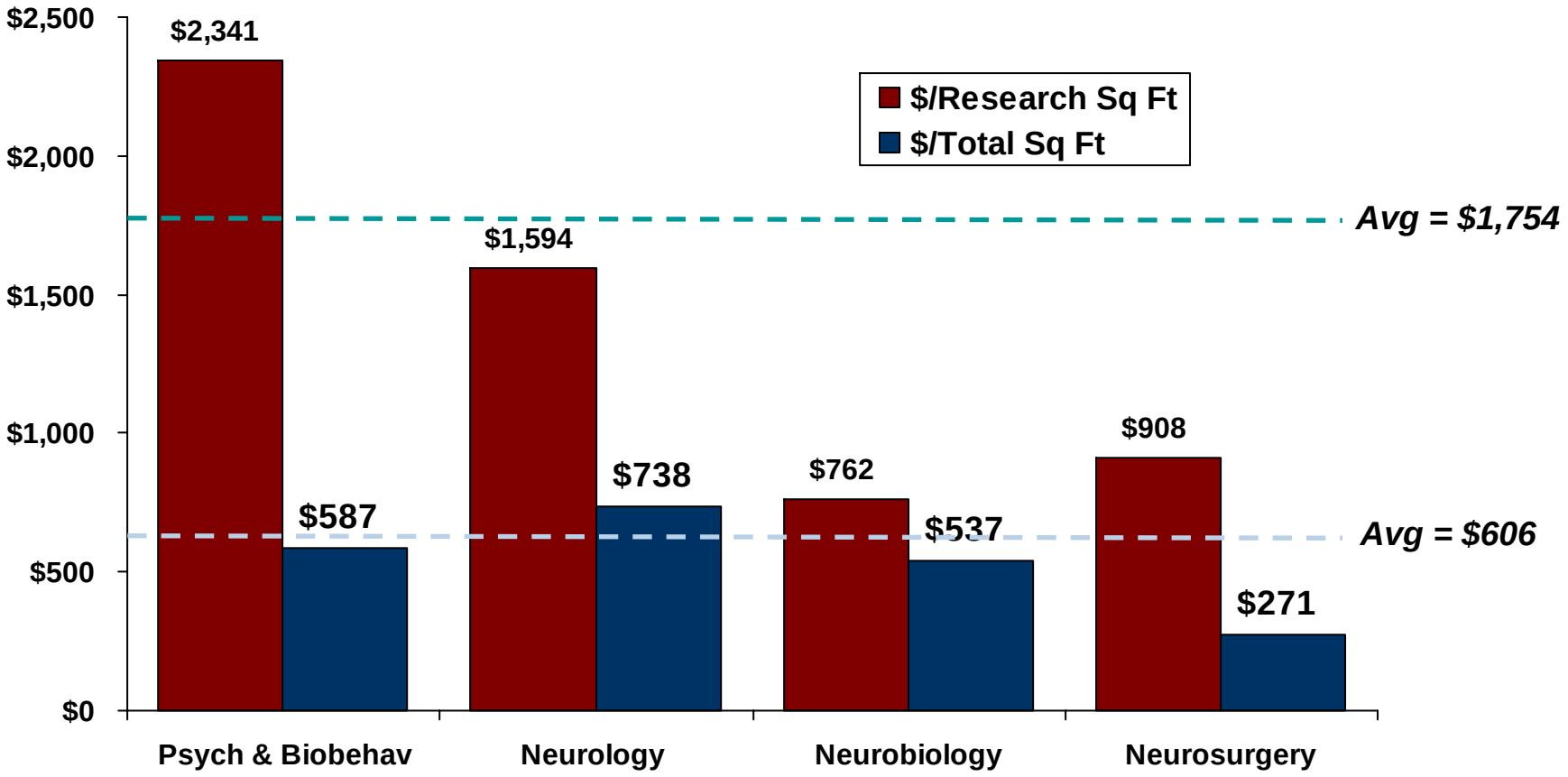
Note: Psychology, Physiological Sciences, Diagnostic Neuroradiology and Interventional Neuroradiology space may be overstated because it is not possible to identify space used only for neuroscience.

Source: UCLA Space Inventory

UCLA Neuroscience Strategic Plan

On average, UCLA core neuroscience departments generated approximately $1,754 in research funding per square foot and $606 per square foot of total space.

Average Research Funding per Square Foot, FY07-08*



* Exclude Psychology, Physiological Sciences, Diagnostic Neuroradiology and Interventional Neuroradiology and BRI because it is not possible to identify research space used only by neuroscience researchers.

Source: Derived from data on pages 17 and 38.

UCLA Neuroscience Cores & Special Equipment

BRI	Neurobiology	Neurology
• Microscopic TechniquesCore • Electron Microscopy Core	• Cell Culture Room • Real-Time PCR • Nucleofector • LSM 410 Confocal Microscope • LSM 510 Confocal Microscope • Spectrophotometer	• Laboratory of Neuro Imaging • Ahmanson Lovelace Brain Mapping Center • Biopolmer Lab • Electron microscope
Neuroradiology & Interventional	**Neurosurgery**	**Psychology**
Neuroradiology • Vital Images 3D • TeraRecon 3D • 3T magnet • 7T magnet **Interventional** • Philips Single Plane Allura 3-D System	• Neurotrauma core • BT immunology 1&2 (Cell Culture) • Neurocognitive Lab • Skull base lab • Epilepsy Lab • Clinical Neuroimaging Core in RRUMC • CSF and Tissue Bank	• FUNC lab • Behavioral Testing Core • fMRI machine • Health Psychology lab for physiological sampling
Psychiatry & Biobehavioral Sciences		
The Southern California Genotyping Consortium (SCGC) • SCGC Gene Expression • SCGC Gene Methylation • Biological Samples Processing Core – BSPC • Informatics Center for Neurogenetics and Neurogenomics (ICNN)	**Mental Retardation Research Center** • Administration and Communications • Neuroscience and Imaging Core • Animal Models • Neurogenomics and Bio-Informatics • Fieldwork Training and Qualitative Data • New Program Development	**Pasarow Mass Spectrometry Lab** • Biostatistics Core (SIStat) • Microscope Techniques • Electron Microscope Core • Confocal core

Source: UCLA Brain Research Institute (BRI), departments of, Neurobiology, Neurology, Neurosurgery, Psychiatry & Biobehavioral Sciences, Psychology and Physiological Sciences, divisions of Interventional Neuroradiology and Diagnostic Neuroradiology.

APPENDIX E: Blue Ribbon Report

Report of the 2007 Visiting Committee to the UCLA Biosciences
19 December 2007

Prepared by David Baltimore for the Committee

On October 25/266, 2007, a committee consisting of me, Joe Goldstein, Phil Sharp and Floyd Bloom visited UCLA to assess its biosciences research program and offer some recommendations. This is a short summary of the findings of this group. A longer discussion of these issues is found in the transcript of our final meeting, called Closingsession.com, available from Emil Reisler.

We met with many senior people at UCLA representing both the medical school and the Arts and Science Campus. We spoke with the Chancellor twice, giving him a final verbal report at the end of our visit. This summary is based largely on that last session.

We were impressed by the quality of many of the investigators we met. We were particularly struck by the spirit among the faculty: it was upbeat and optimistic; faculty enjoy working at UCLA. There seemed to be a remarkably collaborative ethos and people knew and were comfortable with each other. In fact some on the committee were surprised by the quality and positive outlook of the faculty, saying that it was distinctly better than the reputation of UCLA they had experienced in the scientific community. UCLA administrators and faculty also felt the school was underappreciated.

Another great plus is having the medical school, the major teaching hospital, the engineering school and the letters and science college together on a single campus. This allows for integration that most schools cannot achieve because of the distance separating activities. The opportunity for carrying out interdisciplinary and translational programs is unparalleled.

UCLA is to be commended for its focus on providing high class research facilities that support the work of large numbers of faculty. Many faculty commented favorably on this. Notable, and worthy of continuing support, is the recently started program of Biosciences Core Facilities.

While the quality of biomedical science at UCLA was better than some expected, what we felt was lacking was sufficient pockets of world-class excellence. Another way to say this is that while there was a lot that was good, either UCLA has not been attracting the very best, has not been retaining those who excel over others, or has not been using a fine enough filter in its tenuring process. But attracting excellent new faculty is tough—requires extensive resources and it should be directed from the highest levels, the Chancellor and Provost. Often it will involve combining the efforts of multiple departments. Bringing engineering faculty in with joint appointments in clinical areas can be very attractive.

One mechanism for encouraging excellence that might be considered is the creation of small institutes of unquestioned quality within the overall structure of UCLA. Such structures provide an occasion for leadership and a particularly attractive environment for faculty.

We also thought that UCLA lacked sufficient first-class scientific leaders among the faculty. This is a major problem at many schools, stemming from the community's singular focus on scientific prowess in our hiring procedures. Then we hope that those who excel will want to lead programs and build new centers but too often the best want simply to focus on their own productivity and are less than generous to their institution. The best leaders are often younger people who have been empowered with responsibility, rather than the senior scientists who are willing to give the time but who are no longer conversant with the leading edge of their field. We did meet some younger people who have real leadership potential and they should be encouraged to exert leadership.

We found the Cancer Center to be a model of what can be accomplished at UCLA. It has had for many years committed, imaginative leadership. It has spawned other leaders. It runs a separate fund-raising effort, but then uses those funds to support programs across the campus. It also supports core facilities that are used campus-wide; in today's increasingly technology-driven biomedical science, this is significant institutional benefit

Although the life sciences and the medical school are together on a single campus, they are not as integrated as they could be. The single microbiology department (MIMG) that resulted from merging two separate departments seems to have worked very well. Whether or not it is a model to be encouraged is an administrative issue, but some of its accomplishments should be models for action in other areas of UCLA. These include putting salaries on a common base, integrating medical school personnel into the undergraduate teaching, providing equal access to resources, and making joint hiring and programmatic decisions.

Many of the UCLA faculty recognize that new hybrid disciplines are producing some of the most exciting science today. In two areas, bioinformatics and systems biology, there are initiatives to bring together faculty from various departments and schools. We encourage these efforts but we felt that they were not of uniformly high quality. Perhaps an outside evaluation by experts would help to guide resource application. Some 25 years ago, UCLA organized a Molecular Biology Institute that brought in many superb faculty and gave the campus a needed shot in the arm. It is housed in Boyer Hall. Inasmuch as general molecular biology is no longer the leading edge of biomedical science, we suggest rededicating Boyer Hall to these new directions, empowering those younger investigators who have leadership potential to set new directions. Perhaps Chris Lee and David Eisenberg, teamed as one younger and one more mature investigator, could make this happen.

Neuroscience is an historic strength of UCLA and the campus has an army of investigators in this area. The Brain Research Institute was a central focus for this activity, but that focus seems to have moved more into psychiatry. The overall enterprise suffers from a lack of visible excellence and lack of identified goals. The Academy of Neuroscience for solving administrative difficulties sounds like a good but limited idea. A long term strategic plan is needed to strengthen UCLA's response to the opportunities that are going to occur in the neurosciences, in both psychiatry and neurological diseases, which are going to be a forefront of future medicine. By putting more resources in the BRI, UCLA could take on a leadership role. But the program generally needs a definition of a smaller set of goals and concentration of resources to achieve those goals. It should be considered that in this area, smaller might be better. One bright spot was neurogenetics. The imaging program is generally considered the jewel of the neuroscience effort and, unfortunately, the leaders were away at the time of our visit. However, the program clearly attracts many interested students. This is an area where UCLA should consider the Cancer Center as a model because there would seem to be untapped fund-raising opportunities and leadership opportunities

Turning to teaching programs there seems to be quite general dissatisfaction with the quality of the graduate students This is partly a consequence of the underappreciation of UCLA on which we commented above. But when we looked at the recruiting programs we easily identified a systemic problem: there is insufficient attention to recruiting and mentorship of the graduate students. The cross-cutting ACCESS program is so large that faculty do not feel ownership of it and thus participate poorly. Graduate recruiting at the highest levels is a contact sport and needs full participation by faculty who see the program as providing them with the best possible colleagues for their laboratories. There is a proposal to realign the ACCESS and departmental programs into a few discipline-focused interdepartmental programs this makes good sense. But unless it is a mechanism for greater faculty involvement and for creating continuity between admission and mentorship, especially in the first year, it will not make the difference that is sought. The quality of students admitted in different areas should be evaluated and the money for recruitment should be funneled to those programs that display the ability to attract excellence. Admitting fewer students who are better supported is another strategy for increasing quality.

Alan Fogelman developed the STAR program in Medicine, for post medical training in research and it has spread to other departments. It is an excellent and imaginative program and should be widely encouraged.

We heard a little about undergraduate education. We did hear about the basic Core Program in Life Sciences organized by Fred Eiserling and the Minor in Biomedical Research started by Utpal Banerjee, and were very impressed by their efforts. One great strength of UCLA is the high quality of the undergraduates and it was good to hear that their needs are being treated as important.

Visits of this sort serve an important internal function: the preparation for the visit forces investigators to come together and to think through what they most want to achieve. It was our impression that at UCLA this visit was a rare event and people used the occasion to think together about the future. However, these were one-off meetings; faculty often noted that they had only met each other recently when a single pre-meeting for our visit was held. UCLA needs a mechanism for thinking about the future, for thinking about what aggregations of faculty should be created, for thinking about larger goals. This should be an on-going process but then the administration has to have resources to respond to the ideas that emerge or people will consider it a sterile exercise.

A final comment on hiring. We all appreciate the value of hiring "fresh-outs" and supporting their development. It is cheaper and produces faculty with a deep loyalty to the institution. But, as indicated in a number of places in this report, enhancing excellence should be a goal at UCLA and the best way may be by making a small number of superb senior hires ("senior" here means 40-50 year olds who have proved themselves but have a long term opportunity for contribution to the school). These people can be a focus for further development and a mature presence with significant leadership potential.

Recommendations

Enhancing excellence and recognition

1. Focus on enhancing excellence in every part of the evaluation process. Also, focus resources on hiring and retaining the very best even if it means having fewer people. In general, excellence tends to emerge when resources are focused more on those who have the highest potential rather than being distributed in an egalitarian manner.

2. Mount a tasteful public relations effort to let the world know of UCLA's strengths. It will pay dividends in fundraising, hiring and attracting students, Gene Block should do some of this personally, being as visible as possible in LA and on the national scene.

3. Empower younger excellent scientists to take on leadership roles. They can best define the future and then create it. They often have prodigious abilities allowing them to accomplish great science while they are helping to build institutional capability. They can be assisted by providing sufficient administrative support.

4. Encourage the faculty to be more involved in graduate recruitment and retention and in forming interdepartmental graduate programs.

Recommendations *(cont'd)*

Programmatic

5. As new programs emerge like bioinformatics or systems biology, resources should be concentrated in these efforts rather than being funneled through the departments. Find and create peaks of excellence and make sure they have sufficient resources.

6. Encourage the bioinformatics and systems biology initiatives as foci for hiring and consider positioning them in the very central location represented by Boyer Hall.

7. The campus should have similar standards in all departments and make joint hiring and programmatic decisions in biosciences. Blurring the distinction between medical school departments and life sciences departments in salary levels and resource availability, as has been done by combining into one the two previous microbiology departments, represents an important reform. Whether this should be achieved by more fusion of departments or by other mechanisms was not clear to us

8. Establish mechanisms for the faculty to think about new aggregations and new directions. Be prepared to respond to good ideas.

9. Evaluate and focus the neuroscience effort concentrating on a limited set of objectives and supporting or creating centers of unquestioned excellence. These can be the basis for fund-raising and for program grants. The imaging program is a bright spot and should be maintained but, however intellectually demanding it may be, it is a tool, not a conceptual area of investigation.

General

10. Continue the support for Biosciences Core Facilities.

11. Use the Cancer Center as a model of a relatively autonomous unit that enhances institutional effectiveness. The leadership of its director is exemplary more like her are needed.

APPENDIX F: BRI Report

Report of the External Committee
5-Year Review
Brain Research Institute
University of California, Los Angeles

Date of Review: January 14-16, 2009

Review Committee:

Professor Itzhak Fried
Departments of Neurosurgery and Psychiatry and Behavioral Sciences
University of California, Los Angeles
Box 957039, 18-225 NPI
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Professor Frank M. LaFerla
Director, Institute for Brain Aging and Dementia
Department of Neurobiology and Behavior
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Irvine, CA 92697

Professor Alcino J. Silva
Departments of Neurobiology, Psychiatry, and Psychology
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Los Angeles, CA 90095

Professor Emeritus Ben A. Williams
Department of Psychology
University of California, San Diego
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Professor Michael J. Zigmond
Departments of Neurology and Psychiatry
University of Pittsburgh
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3501 5th Avenue
Pittsburgh, PA 15260

Charge for the Brain Research Institute Review

- For the 5-year review of the Brain Research Institute (BRI), provide your sense of the role that the BRI plays for neuroscience at UCLA. Is the Institute driving the neuroscience agenda at UCLA, or is its role more that of a facilitator?
- Does the large faculty associated with the Brain Research Institute help put the Institute at the forefront in the field?
- Does the neuroscience program at UCLA have the depth and breadth needed to make this program one of the leading programs in the country? If this is not the case, what would be needed to achieve this goal? What role could/should the BRI play in this effort?
- Provide your impression of the faculty associated with the Institute? Are they among the leaders in the field? How promising are the recent young faculty that have been hired who are connected with the BRI?
- Provide your sense of the effectiveness of the affinity group program in the BRI?
- Describe your impression of the research associates and graduate students participating in the BRI? Is UCLA successful in attracting the best? If not, what could be done to further increase the quality of the trainees associated with the BRI at UCLA? Is there enough attention paid to student support?
- State your opinion of the educational role that the BRI plays at UCLA?
- One of the important services that the BRI offers to its associated faculty (and more broadly to the campus) are some well run centralized core facilities. Keeping these cores at the forefront requires significant investment in new equipment, as well as continuing support for staff. Do you have any advice in this respect? Are there funding opportunities that are being overlooked? Are there core facilities that are missing?
- Please comment on Chris Evans' performance as Director of the BRI. Should he continue as Director of the Institute?
- Should the BRI be continued as an ORU?

Summary of Key Findings and Recommendations

1. The BRI continues to play a major role in facilitating neuroscience activities at UCLA, and should be continued as an ORU.

2. The current director, Dr. Christopher Evans, has done an outstanding job during his 4-year tenure, has developed several novel initiatives, and appears to be universally praised by the neuroscience community at UCLA for his efforts. He should be reappointed as director.

3. The director of the BRI should also report to the Vice Chancellor for Research rather than to the Dean of the School of Medicine.

4. Committee strongly endorses the “academy” as a joint leadership mechanism for neuroscience at UCLA. We also endorse the suggestion by Dr. Whybrow that the BRI director chair the “academy.”

5. BRI should be a catalyst to project UCLA neuroscience to the forefront of the national and international neuroscience community.

6. Committee endorses the general enthusiasm of the faculty and deans regarding the development of BRI affinity groups into UCLA “centers “as they mature. Indeed, several including the group on neuroplasticity already appear to have reached that point.

7. The core services administered by the BRI play a vital role in supporting the research efforts of neuroscience at UCLA and should be enhanced and provided additional support as necessary. Costs to BRI members should be at a discount, both to further facilitate their research and to strengthen the sense of community.

8. Increased funding and other resources are required to provide the support needed to propel the BRI to further prominence.

9. Development and fundraising efforts for the BRI must be greatly enhanced. This can facilitate development of further term chairs, increasing core facilities and their support, and providing research funding to junior investigators and bridge funding to more senior ones. Cost sharing with departments with neuroscience faculty and development of space, e.g., CHS, should also be provided.

Director:

There is widespread and enthusiastic support and confidence in Dr. Christopher Evans as director. He is acknowledged as having done an outstanding job of stewardship and is described as an individual having a collegial attitude who operates by building consensus with the other neuroscientists on campus. He has shown remarkable leadership abilities and has been exceptionally creative with the limited resources made available to him. Particularly notable is the development of the "term chair," which represents an important vehicle for retaining faculty and for jumpstarting the career of more junior faculty. We considered whether operating by consensus seems to be the most appropriate model, rather than more forceful decision-making, an issue raised in the previous BRI review. After considerable discussion with members of the BRI community and among itself, the committee felt strongly that the consensus model was a key component to the success that Dr. Evans has shown. However, we also felt that the director needs to be more of a coordinating force within the broad neuroscience community on the campus. As such, it is our strong recommendation to have the Director of the BRI chair the "academy," the group of departmental chairs from neuroscience-related departments and deans across UCLA. By coupling this administrative change with additional resources, we feel confident that the BRI would achieve the prominence within local, national, and international neuroscience that it had long held.

Outreach:

The Outreach efforts are currently led by Dr. Joseph Watson, who has seemed to take on this position with great enthusiasm. The outreach efforts of the BRI are outstanding at targeting K-12. There is involvement of undergraduates (Interaxon) and also graduate students (Project Brain Storm) in this effort. However, we were surprised that little effort is currently geared towards outreach to the local adult community. We consider this to be a serious deficiency, both because of the responsibility of an academic community toward the public and because such an outreach would provide a base for cultivating donors for future philanthropy. These efforts probably need to be coordinated with the central development office, but the BRI should clearly play a more active role in conducting its own development.

Long-term objectives:

In recognition of the current climate of limited resources, it is important the BRI initiate plans for eventual growth, which includes additional space, philanthropy, and FTEs. Regarding space, there is a need to develop more space for continual growth and retention of the best BRI faculty. At present, the BRI only manages space in the Gonda building, and, all of that space has been assigned, rendering it difficult for the BRI to capitalize on any strategic opportunities. The committee believes that this will be a long term problem because most of the labs in the BRI are currently occupied by relatively younger faculty. Hence, the only solution is for the BRI to obtain additional space. It has come to our attention the 400,000 sq ft former hospital building is vacant, and this would appear to be idea space to eventually assign to the BRI to help it maintain its programmatic mission.

Better development efforts could lead to the procurement of substantial resources, which represents an underutilized approach. Success in this area could lead to the development of additional long-term chairs, an initiative of Dr. Evans which we applaud, as well as to an expansion of the current core facilities and their support, additional research funds for junior investigators as well as to senior investigators needing bridging funds and/or the opportunity to develop new lines of research.

The following addresses the specific questions posed to the committee:

1. *For the 5-year review of the Brain Research Institute (BRI), provide your sense of the role that the BRI plays for neuroscience at UCLA. Is the Institute driving the neuroscience agenda at UCLA, or is its role more that of a facilitator?*

The BRI is the principal unit at UCLA that represents the entire neuroscience community. It has a long and rich history. It plays a major role in administering the interdepartmental neuroscience program for both graduate and undergraduate students. This is an unusual activity for an organized research unit, but given the confidence of the faculty, it is clear that the BRI is critical for the success of the IDP. In addition, the BRI has fostered the development of affinity groups such as the one focused on the neurobiology of learning and memory. The BRI has actually provided resources to support these affinity groups, including providing the organization and funds to promote and sponsor colloquia on related topics. The BRI is also quite active in community outreach. All of these activities help to drive the neuroscience agenda at UCLA. However, with further funding as well as some administrative changes in the report structure and the role that the director plays within the "academy" of neuroscience leaders, the BRI can play an even more important role.

2. *Does the large faculty associated with the Brain Research Institute, help put the Institute at the forefront in the field?*

Yes, the faculty of the BRI are internationally known, which helps to bring prestige to UCLA. There are obvious pockets of excellence, particularly in learning and memory, molecular neurobiology, genetics, and also in neurodegenerative disorders. There was strong sentiment that the BRI should continue to nurture the affinity groups, which should allow them to continue to be at the forefront of the field.

3. *Does the neuroscience program at UCLA have the depth and breadth needed to make this program one of the leading programs in the country? If this is not the case, what would be needed to achieve this goal? What role could/should the BRI play in this effort?*

UCLA is surely one of the leading neuroscience communities within the country. On the other hand its reputation may not be as strong as is deserved. Indeed, many people we spoke to commented on the fact that visiting colleagues are often surprised at how much more is at UCLA than they realized. To some extent this is a reflection of the increased competition. When the BRI was founded, the term "neuroscience" had not yet been coined, there was no Society for Neuroscience, and the number of centers of brain research was extremely small – the University of Pennsylvania and McGill are among the few that come to mind. There is hardly a neuroscientist who entered the field in the 1950s or 1960s for whom the BRI did not shine brightly. Now 50 years later, there is hardly an institution of higher learning that does not have a department, program, and/or center for neuroscience, the Society for Neuroscience has more than 35,000 members, and the light has dimmed somewhat.

The following addresses the specific questions posed to the committee:

3. *Does the neuroscience program at UCLA have the depth and breadth needed to make this program one of the leading programs in the country? If this is not the case, what would be needed to achieve this goal? What role could/should the BRI play in this effort? (cont'd)*

Nonetheless, we feel that the BRI can again assume its place as one of a handful of leaders. This will require only a few modifications.

First, we strongly recommend that the BRI become the umbrella organization for neuroscience across UCLA rather than one of several such units. Thus, we believe that BRI should evolve to represent neuroscience at UCLA, whether be in the College of Letters and Science or within the Health Science Programs, and whether it involves research and training in basic, translational, or clinical neuroscience. We further believe that this can be accomplished so that everyone's interests are protected and everyone benefits.

Second, and in keeping with our first recommendation, the BRI should come under the UCLA vice chancellor rather than the Dean of the School of Medicine.

Third, the BRI should be given more prominence on the UCLA web site. For example, if one enters "UCLA" rather than "Brain Research Institute" as a search term, it takes several clicks to find it buried among 299 other "research centers, labs, and institutes." Surely, a center that is comprised of more than 250 faculty members deserves more visibility.

Fourth, as noted elsewhere, even in these difficult times, more resources are needed – more space, faculty lines, and funding. If these are not readily available through existing state funds, plans should be made to increase development efforts and to begin to lobby for state funds when they can become available.

4. *Provide your impression of the faculty associated with the Institute? Are they among the leaders in the field? How promising are the recent young faculty that have been hired who are connected with the BRI?*

There are a large number of faculty affiliated with the Center. Many of the senior faculty have major scientific reputations with which the Committee was familiar before conducting the review. The Committee was able to interview only a small number of the younger faculty, but these also were very impressive.

The following addresses the specific questions posed to the committee:

5. *Provide your sense of the effectiveness of the affinity group program in the BRI?*

The affinity groups are an excellent idea. However, there needs to be a mechanism by which they can mature from a sometime discussion group to visible centers within the BRI. Indeed, there are affinity groups that already seem ready for such a transition, including those on (a) autism, (b_ learning, memory. and plasticity, and (b) neural repair. These centers should be seen as critical components of the BRI, rather than wholly independent units. At the same time, they should be provided with a budget and limited autonomy to raise still more funds, organize symposia, and recommend new hires when that is possible.

6. *Describe your impression of the research associates and graduate students participating in the BRI? Is UCLA successful in attracting the best? If not, what could be done to further increase the quality of the trainees associated with the BRI at UCLA? Is there enough attention paid to student support?*

The BRI does an outstanding job running the interdepartmental neuroscience program (IDP). Based on interactions with the graduate students and the postdoctoral fellows, it appears that UCLA is succeeding in attracting top notch students to the campus. During the past five years, numerous training grants have been administered by the BRI, including in the areas of Cellular Neurobiology, Molecular and Cellular Neurobiology, Neural Repair, Neuroendocrinology, Sex Differences and Reproduction, and Clinical Pharmacology. It is worthwhile to also note that that the BRI has played an mportant role in sponsoring the development of training grant applications both with respect to administrative support and advice about how to improve the applications.

7. *State your opinion of the educational role that the BRI plays at UCLA?*

Even though organized research units are not chartered to play a formal role in education, the BRI plays a major role in this area. It coordinates the interdepartmental neuroscience program and the general feedback from the faculty is that it does an outstanding job in this capacity. Neuroscience is at the forefront of “horizontal” as opposed to “vertical” science. That is, neuroscience includes individuals who might be found in many different departments across a campus, from computer science to chemistry, from philosophy to pharmacology, and from microbiology to medicine. Thus, a unit such as the BRI is essential to provide the depth and breadth needed for top notch training programs at the undergraduate, graduate, and postdoctoral level.

The following addresses the specific questions posed to the committee:

8. *One of the important services that the BRI offers to its associated faculty (and more broadly to the campus) are some well run centralized core facilities. Keeping these cores at the forefront requires significant investment in new equipment, as well as continuing support for staff. Do you have any advice in this respect? Are there funding opportunities that are being overlooked? Are there core facilities that are missing?*

Providing and overseeing core facilities can be a vital function of an organized research unit such as the BRI. The BRI maintains the Carol Moss SPivak Confocal Imaging Core, EM Core, and the Microscopic Techniques Core. We recommend that a committee be established under the associate director for research to determine whether more such cores are needed and whether additional resources are required. Such a committee would be particularly timely given the likely available of additional funds for 2009-2011 from NIH, including the National Center for Research Resources. We also recommend a cost recovery system that permits active members of the BRI to obtain assistance from the cores at a discounted price, thereby facilitating BRI members' research and providing an extra incentive from being a part of the Institute.

9. *Please comment on Chris Evans' performance as Director of the BRI. Should he continue as Director of the Institute?*

We are unanimous in our recommendation that Dr. Evans be definitely reappointed as the Director of the BRI. He is considered by the community to be an outstanding director and appears to have the complete confidence of the faculty, including the chairs of the relevant neuroscience-related departments and the associate directors of the BRI. He has implemented some new initiatives, including the development of term chairs, which has greatly aided in the retention and recruitment of key faculty. He clearly places the BRI at the very top of his list of responsibilities. UCLA is very fortunate to have such a leader.

10. *Should the BRI be continued as an ORU?*

Our answer to this question is unequivocally yes. The BRI is highly respected and regarded as acting in the best interest of the UCLA neuroscience community. The campus should be proud of the BRI, as it has had and continues to have a major influence on neuroscience at UCLA. Its accomplishments are remarkable with its limited resources; its budget is surprisingly small, and if it had more resources, it would do even more for the community.