Space Design Task Force Report
July 31, 2008

The Space Design Task Force has met regularly over the last three months. Our primary charge was to provide recommendations for the design of the Research Expansion of the Institute for Human Performance. Disregarding space for parking, we acted under the assumption that three floors of usable space will be constructed, each of which will contain approximately 25,000 sq ft of usable space. Of the three floors, we propose that the top floor contain the vivarium, with the two lower floors designed for laboratory investigation. From the early stages of our discussion, we were advised to assume that the major occupants of the IHP expansion will be investigators whose research focus is in diseases of the nervous system.

Vivarium. We recommend that the IHP vivarium be designed for small animal use only, given that a new large animal facility is currently under construction on the 7th floor of UH, and the expected needs for large animals are not expected to exceed capacity of the UH vivarium for the foreseeable future. We recommend that the IHP vivarium occupy approximately 20,000 sq ft, with an additional 2000 sq ft of adjacent space designed to accommodate a behavioral phenotyping core, to include rotorods, activity mazes, and other behavioral measures. We also recommend that small animal imaging modalities (small animal CT, MR) also be housed adjacent to the vivarium; this will require additional space estimated at 1000 sq ft. The vivarium should include barrier facilities for SCID mouse investigation and housing, use of infectious agents and for the breeding and housing of transgenic animals. All functions necessary for the operation of the vivarium should be housed on the same floor, including cage and rack washing facilities, and operating rooms for small animal surgery.

We recognize that there will be some duplication of function, as a fully functional vivarium for small animals will also be maintained in Weiskotten Hall; this vivarium also requires a barrier facility for SCID mouse and infectious disease investigations.

Research Space. With regard to laboratory space on the other two floors of the IHP expansion, we suggest the two floors be organized in similar but not identical fashion. After discussion with neuroscience faculty, it is clear that a design in which most research space is in the form of open bays is not ideal for many investigators. Therefore, we recommend that one floor should contain approximately 60% open bays and 40% separable rooms, plus smaller rooms for offices. The other should have 40% open bays and 60% separable rooms, plus smaller rooms for offices. Both small rooms for specific activities and large single enclosed areas are necessary for the separable rooms. Given the realities that research needs change with individual researchers, consideration should be given to a flexible plan that would allow conversion of open bays into separable rooms, perhaps using movable walls. Specifics of design (percentage open/small) should be done in discussion with planned occupants.

For simplicity, we allocated space by active RO1 grants. We assume that an investigator with a single RO1 will require 1300 sq ft of space, including office space and research space. An investigator with two RO1 grants will be allocated 2600 sq ft. A newly recruited but unfunded investigator will be treated identically to an investigator with a single RO1. For each RO1 funded investigator, we allocate 150 sq ft faculty office, 200 sq ft for four lab personnel; either graduate student, fellow, or tech.**,** and 950 sq ft of bench space. We also recognize that shared space is required for collaborative research, and allocate one 150 sq ft cold room per five faculty, one 300 sq ft dishwashing and glass room for 10 faculty, and one 300 sq ft unspecified common equipment room per 10 faculty members. We also allocate one break room of 150 sq ft per 10 faculty members.

We also recognize that core facilities will have to be present in the IHP, and may have to be duplicated in Weiskotten Hall. A Genetics core and an Imaging core will be housed in the IHP, each of which will require 800 sq ft of bench space and 150 sq ft of office space. A third core with the same space requirements will be specified later after consultation with identified occupants of the expansion. Other shared space required includes general administrative space housing fax machines, copiers etc; we estimate the need for 150 sq ft of such space per 10 faculty. In addition, four conference rooms at 300 sq ft per room and one large lecture hall at 2600 sq ft is recommended.

For 30 faculty, the above considerations lead to a total of 39,000 sq ft of dedicated research space, 3150 sq ft of shared space, 2850 sq ft for core facilities, 450 sq ft for administrative space, and 3800 sq ft of teaching areas. The estimated total space requirements are thus 49,250.

The committee discussed use of the existing IHP. Currently, the IHP houses clinical functions, research laboratories from multiple disciplines, the Clinical Research Unit, and the offices for the Center for Outcomes Research. It was the consensus of the committee that both research and clinical academic activities related to the Neurosciences would be facilitated by locating clinical neurosciences in the same area as neurosciences laboratory investigation. A brief consideration of the first floor of the IHP suggested that if some research and clinical programs were moved, this could be accomplished. Centralizing clinical and research neurosciences would encourage the development of translational and clinical projects, would help with branding and marketing, and would provide an environment that would foster the development of interdepartmental clinical programs and clinical research programs. The Clinical Research Unit currently resides on the first floor of the IHP, and its presence in its current location is deemed appropriate. Given that clinical research on diabetes is a major funded activity at the CRU, we suggest that current laboratory research efforts related to diabetes also remain in the existing building.