

ABSTRACT: 2015 ELAM Institutional Action Project Poster Symposium

Project Title: Integrating Neuroscience at the University of Massachusetts Medical School

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Collaborators: **Jean King**; Vice---Provost for Research Affairs, **Andrew Tapper**; Director Brudnick Neuropsychiatry Research Institute, **David Paydafar**; Associate Chair of Neurology, **David Weaver**; Director Graduate Neuroscience Program; **Robert Brown**, Chair of Neurology and Co---Director Neurotherapeutic Institute (NTI), **Marc Freeman**; Vice---Chair of Neurobiology and Co---Director NTI; **Neil Aronin**; Co---Director NTI.

Background, Challenge or Opportunity: A central premise of this project is that to elevate the power of medicine to ameliorate human suffering, the diversity in philosophy and strategies provided by basic and translational research is essential. Success in this area first requires an acknowledgement that while there are REAL philosophical differences between the two approaches— *it is exactly this “diversity of thought” which will empower us to “truly” innovate in medicine.* There is a real need for the creation of a collaborative environment among neuroscientists at UMMS where (a) these differences are celebrated and (b) there are natural bridges from one to the other to accelerate innovation. Several Neuroscience entities, such as Neurology, Neurobiology, BNRI, and others, are present at UMMS. Nevertheless, there is fragmentation of the overall neuroscience endeavor, with less than optimal interactions, few collaborations, and little maximization of the common talent and resources that would significantly improve the impact of research and medicine in this area.

Purpose/Objectives: The purpose of this project is to integrate Neuroscience at UMMS. A short---term outcome will be the enhancement of collaborations, multidisciplinary research, and cross---pollination between basic and translational neuroscience. A prospective outcome will be the creation of a world---class Brain and Neurotherapeutic Institute (BNTI) that brings together the significant talent already present at UMMS in Neuroscience basic and translational research.

Methods/Approach: We have implemented leadership and faculty platforms that will facilitate collaborative interactions between clinical and basic departments in the Neurosciences. These platforms are expected to lead to the generation of a cohesive vision that would heighten, enrich, and improve the visibility of the neuroscientific endeavor. In a first step, the Neuroscience leadership was brought together to brainstorm needs, priorities, and synergizing activities: **(a)** Joint faculty meetings (3---4 times/year); **(b)** partial combination of Neuroscience Program Seminar Series with Neurology “Grand Rounds” featuring a basic and a translational/clinical speaker; **(c)** organization of a Research Retreat; and **(d)** development of a training grant pairing basic and translational scientists through "ambassador trainees".

Outcomes and Evaluation Strategy: Neuroscience leadership and joint faculty meetings have already begun, and a Research Retreat will be conducted on 4/1/2015. A training grant is being prepared (submission 12/2015) and dual translational/basic science talk series is scheduled (fall 2015). Success of the above endeavors will be measured by (1) percentage of neuroscience faculty and trainee participation; (2) surveys about effectiveness of activities; (3) number of new collaborations, joint publications, and joint grant awards; (4) award of the training grant; (5) ability to create a joint strategic vision; (6) Establishment of a world---class BNTI (in 3---5 years).



Integrating Neuroscience at the University of Massachusetts Medical School

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Sponsor: Terry Flotte, Dean of the School of Medicine



Presented at the 2015 ELAM® Leaders Forum

Objectives

The purpose of this project is to integrate Neuroscience at UMMS. A short-term outcome will be the enhancement of collaborations, multidisciplinary research, and cross-pollination between basic and translational neuroscience. A prospective outcome will be the creation of a world-class Brain and Neurotherapeutic Institute (BNTI) that brings together the significant talent already present at UMMS in Neuroscience basic and translational research.

Methods

To achieve the above goals, the following steps were planned:

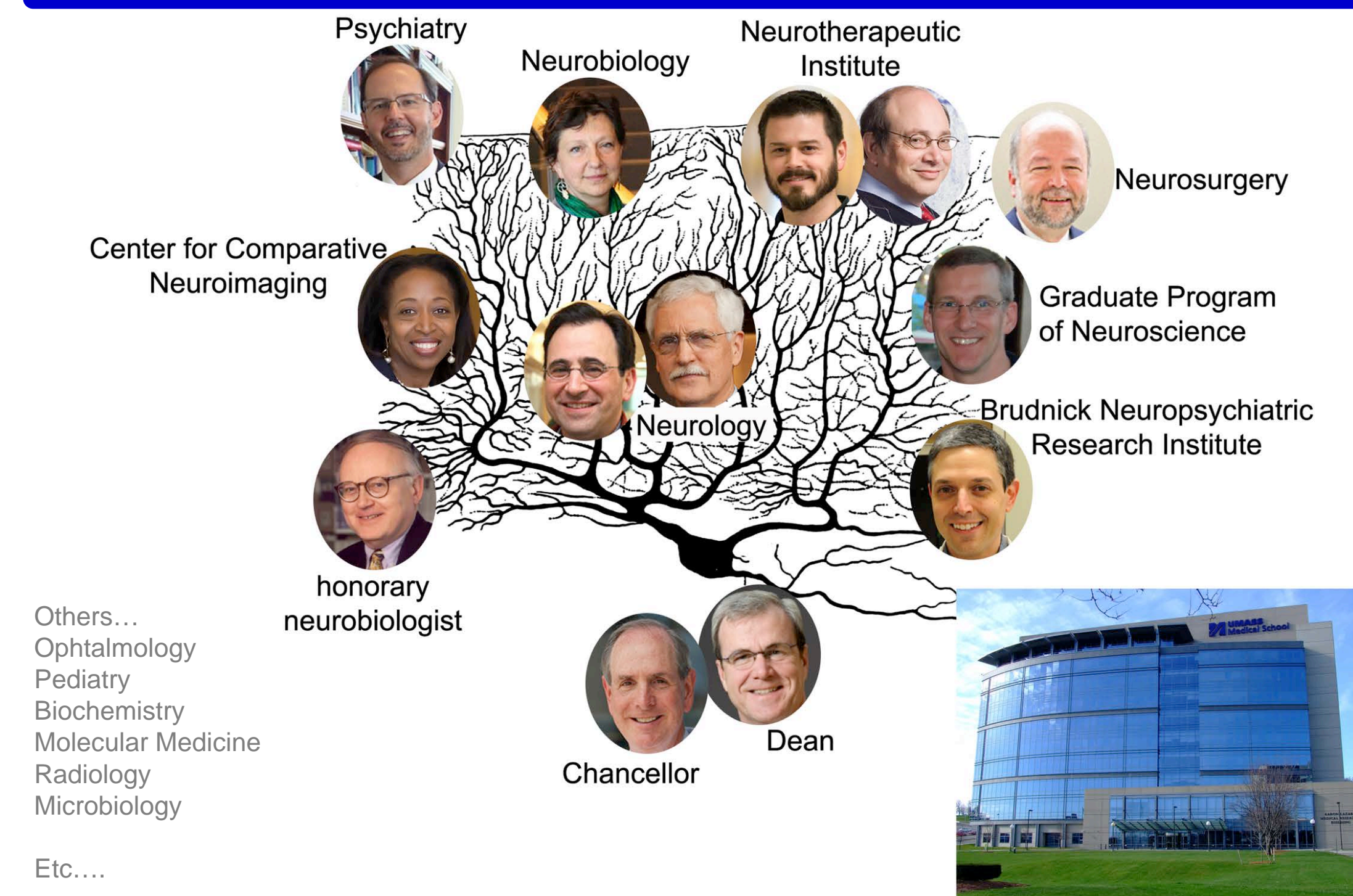
1. Recruit the neuroscience leadership at UMMS as collaborators in this project.
2. Conduct special, cross-departmental joint faculty meetings (4/year) to promote interactions and collaborations.
3. Incorporate dual presentations by a translational/clinical and basic neuroscientist speaker into our Neuroscience Program Seminar Series and Neurology Grand Rounds (4-6/year).
4. Establish a UMMS Annual Neuroscience Retreat.
5. Develop an "ambassador" training grant: a trainee is shared by strategic pairs of translational and basic neuroscience mentors to conduct a joint research project between the two labs.
6. Establish a "seed" grant mechanism to promote collaborations between translational/clinical and basic neuroscience faculty.
7. Appointment of a Neuroscience Steering Committee to develop a strategic plan for the future.

Assessment

Success in the above endeavors will be measured by (1) percentage of neuroscience faculty and trainee participation; (2) surveys about effectiveness of activities; (3) number of new collaborations, joint publications, and joint grant awards; (4) award of the training grant; (5) ability to create a joint strategic vision; (6) Establishment of a world-class BNTI (long-term).

Results thus far....

Figure 1: Composition of Neuroscience Departments/Centers/Programs



6. A "seed" grant mechanism for promoting interdepartmental collaborations is being planned by the Office of Research.
7. The selection of a Steering Committee in charge of drafting a strategic plan and the presentation of such plan at a joint faculty meeting in 3-6 months was agreed upon during the Neuroscience Retreat.

Figure 2: 1st UMMS Annual Neuroscience Retreat: % participation

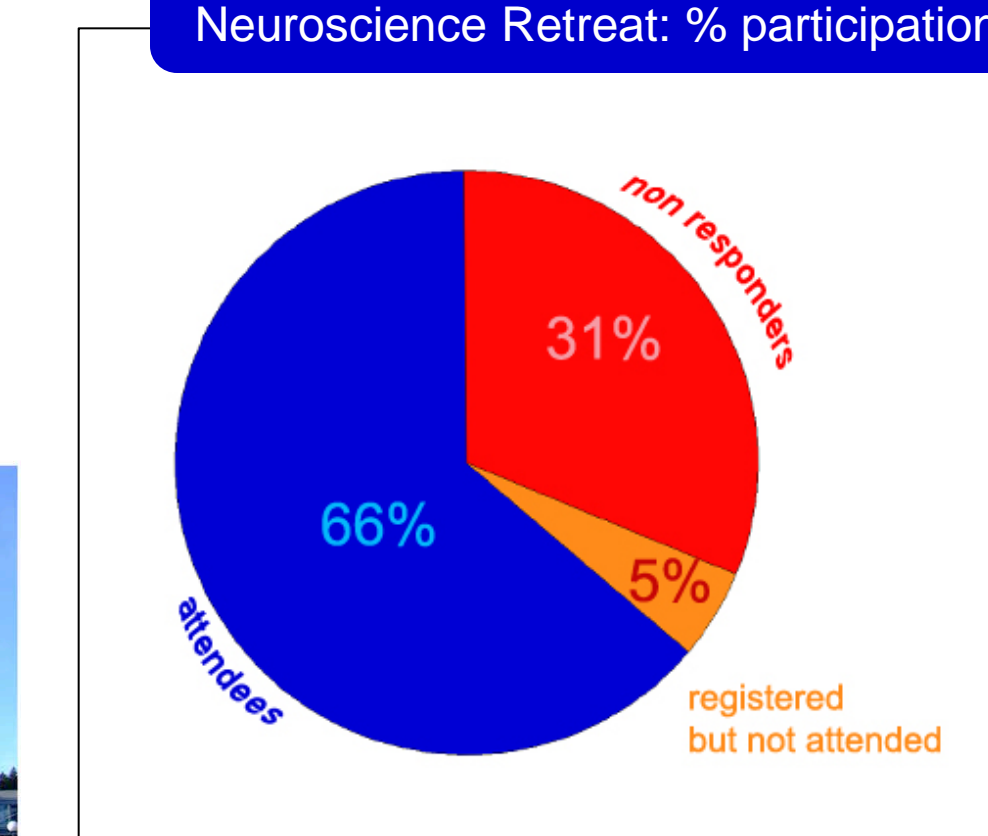
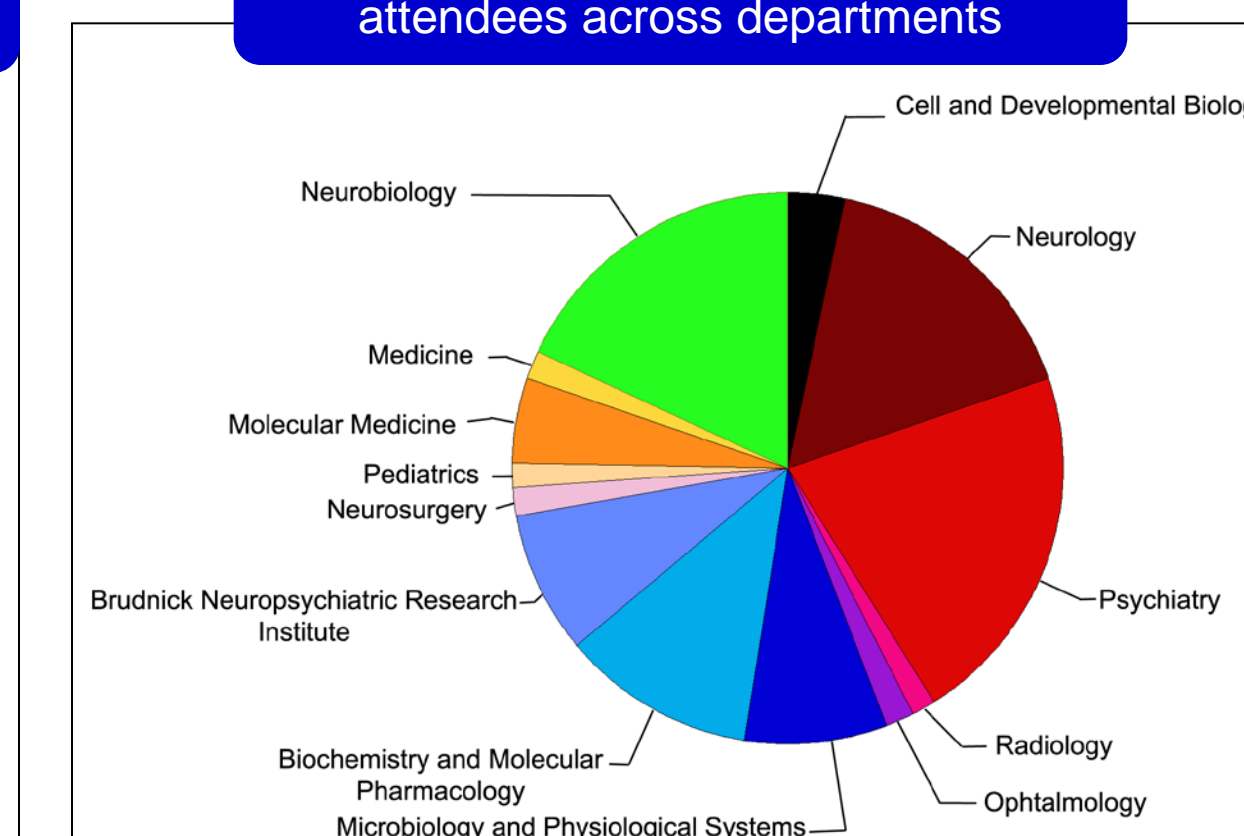


Figure 3: Distribution of Retreat attendees across departments



1. The neuroscience leadership met in 10/22/2014 to discuss plans for integration of neuroscience at UMMS: there was excitement and energy for drafting a coherent plan for integration of neuroscience at UMMS.
2. Two joint faculty meetings between Neurology, Neurobiology and the Brudnick Neuropsychiatric Research Institute faculty were conducted on 11/06/2014 and 12/04/2014: individual faculty briefly showcased their research and there was an assessment of UMMS neuroscience community needs. A Neuroscience Retreat was scheduled, and organizers from each department were selected.
3. The need and utility of establishing dual presentations by a translational/clinical and basic neuroscientist speaker into our Neuroscience Program Seminar Series (4-6/year) was agreed upon, but not yet implemented.
4. A highly successful "First Annual UMMS Neuroscience Retreat" was conducted on 04/01/2015. The retreat, which showcased excellent talks by selected faculty and a discussion forum, had good attendance (63 faculty members out of 99; Figure 2) by faculty members across 13 UMMS Departments (Figure 3). There was a fruitful discussion about the future of Neuroscience at UMMS with great enthusiasm for the notion of integrating neuroscience at UMMS through the creation of an institute. A survey to evaluate the retreat has been distributed among attendants.
5. The "ambassador" style training grant is being prepared for submission to NIH by the end of 2015.

Discussion

- The above results indicate that there is much interest and excitement among the UMMS neuroscience community to become better integrated. In particular, there is a need to establish bridges of discourse and collaboration between translational and basic neuroscientist.
- Fruitful discussions among neuroscience leadership and faculty suggest the presence of an outstanding opportunity to create a world-class Neuroscience Institute: neuroscience is an obvious area of strength at UMM. Further, the 25th century is poised to make some of the greatest advances in understanding the brain.

Next Steps and challenges

- Keep enthusiasm high.
- Delegate activities to stimulate ownership of the project to most likely leaders.
- Convince upper administration about the value of investing in neuroscience for UMMS.
- After strategic planning organize a Brain and Neurotherapeutic Institute uniting basic and translational neuroscientists and providing an improved platform for training the future generation of neuroscientists through the Neuroscience Graduate Program and a Postdoctoral Training Program.
- Fundraising.

Acknowledgements

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