

## ABSTRACT: 2013 ELAM Institutional Action Project Poster Symposium

**Project Title:** Recruit talented US undergraduates more effectively by reforming biomedical graduate education

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**Collaborators:** **Mentor:** Bradley Britigan, M.D., Dean of College of Medicine; **Collaborator:** Herbert Dele Davies, M.D., Vice Chancellor of Academic Affairs and Dean of Graduate Studies

**Background. Challenge or Opportunity:** Currently we foresee flat or decreasing NIH budgets for biomedical research and training grants, a clear trend of ever-decreasing numbers of talented US undergraduates joining biomedical PhD career path, a lack of passion for biomedical research in our younger generation, increasing numbers of graduate/postdoctoral trainees without skills to go into non-traditional career paths, low salary and long work hours (resulting in a decreased quality of life) during postdoctoral training, and a diminishing number of independent research positions. **Therefore, it is a matter of utmost national urgency that graduate programs be reformed.** A recent NIH Biomedical Research Workforce Group Report suggests to “Align biomedical graduate school training and educational experience with the reality that students will pursue a range of career outcomes aside from research science, and provide them with a broader set of skills”. The **Challenge** is to change the mindset of the trainers (i.e. Professors and the study section members at funding agencies) to embrace training of a majority of PhD students for non-traditional career paths while mentoring a small pool of highly talented scientists towards innovative independent career paths.

Decreased funding is a formidable obstacle but also provides an **Opportunity** to involve stakeholders to reform methods of training graduate students so that talented US students will join the programs and become fully skilled for traditional and/or non-traditional career paths thereby optimizing novel discoveries in science and their translation into betterment of society.

**Purpose/Objectives:** i) Transform the current system of multiple graduate programs into a trans-disciplinary biomedical sciences PhD program at UNMC in order to recruit talented US undergraduates to an innovative program providing career opportunities for all students; ii) Reform graduate education curriculum at UNMC with the goal of developing critical skills needed for better job opportunities in the competitive field of biomedical research iii) Start a national discourse on this issue through publications and discussion forums.

**Methods/Approach:** I have already reached out to various stakeholders including the Vice Chancellor of Research, Vice Chancellor of Academic Affairs and Dean of Graduate Studies,, Deans of the College of Medicine, College of Allied Health Sciences and College of Public Health, Graduate Program Directors in various departments and colleges, Chairs of basic science departments, faculty members, and graduate students across the campus. The goal is to build consensus around the concept of creating a trans-disciplinary PhD training program at UNMC initially including training paths of Biology degree combined with other specific disciplines, such as Bioinformatics, Clinical Informatics, Public Health or Clinical Genetics. If this pilot project is successful, the model will be expanded to other disciplines such as Biology/JD or MBA.

**Outcomes and Evaluation:** With the involvement of senior UNMC leaders Dr. Davies and Dr. Britigan, a work taskforce is established where several stakeholders will become fully involved and I will Chair the committee. The first meeting for the committee is set for March 28, 2013. I plan to manage this Herculean task by team-building, delegating responsibilities, and making everyone accountable for the success of this program. The success of the program will be evaluated by establishing a well-designed curriculum that will increase enrollment of talented US undergraduates, who will become fully skilled for traditional and/or non-traditional career paths.