

**Title of proposed idea: Development of a roadmap for the translation of proteomics technologies into clinical setting.**

**Nominator:** Daniel W. Chan, Ph.D., DABCC, Johns Hopkins University School of Medicine

**What is the major obstacle/challenge in the field? What is needed to overcome this obstacle/challenge?**

There is a strong clinical unmet need for new proteomics technologies and diagnostics in the management of diseases, such as cancer, cardiovascular etc. The proteomics diagnostics could be used to improve the early detection of diseases and in the prediction and monitoring of therapies. Unfortunately, the current process for the development of proteomics diagnostics is fragmented. Basic researchers focus on the discovery of new biomarkers or the development of new technologies while clinical researchers focus on the validation of biomarkers. Industry is searching for promising technologies and biomarkers to develop into diagnostics. Regulatory agencies, such as the FDA, review and approve medical devices. Clinicians and clinical chemists are critical in the selection of proteomics technologies for clinical use. There is no consensus among these group of scientists in the steps and process for the translation of proteomics technologies. To overcome such challenges, we need to bring together all the key players. Together, we can develop a roadmap for the translation of proteomics technologies into clinical setting.

**What emerging scientific opportunity is ripe for investment by a Trans-NIH program (e.g. the NIH Common Fund)?**

A trans-NIH program is ideal for the development of such a roadmap. Current NIH funding by different Institutions (e.g. NCI, NHLBI, NIDDK etc) are useful in conducting proteomics research for specific diseases. However, the outcome of the development of such a roadmap will transcend various NIH Institutions and able to be applies to difference diseases. We need a public/private partnership in order to facilitate the translation of proteomics technologies and biomarkers into clinical setting.

**What are the potential Trans-NIH investments that could accelerate scientific progress in this field?**

The trans-NIH investments will accelerate the progress in the development of proteomic technology and diagnostics science for different diseases. We anticipate that the construction of the roadmap will require all the key players – researcher, clinician, clinical chemist, industry, FDA and NIH.

**If a Trans-NIH program on this topic achieved its objectives, what would be the impact?**

This will accelerate the development of clinically useful technologies and biomarkers and make a significant impact to fulfill the clinical unmet needs of using new technologies and diagnostics to improve the management of human diseases.