Priority Statement Title: A Call for Biomechanical Cross-Disciplinary Education

Priority Statement Code: CJ4A

Domain: Cell, joint, whole-body and functional

Priority Statement

Background and Relevance

Biomechanics is a discipline that can be applied to a multitude of problems. Too often, individuals with biomechanical training apply themselves only to problems using a narrow set of tools. However, there is a wealth of scientific opportunity available to those who can integrate tools from a variety of fields (e.g., biology, bioinformatics, surgery and clinical medicine). It is therefore imperative who study biomechanics be educated with at least rudimentary knowledge of these fields and that they use common terminology and vocabulary that permits meaningful dialog with individuals of different backgrounds. This will leverage the tremendous opportunity in disparate fields and highlight the special skill sets possessed by individuals studying biomechanics. Increased visibility will increase the probability of obtaining extramural funding and will elevate the status of the biomechanics field. This will promote biomechanics understanding among the government and public, which can solidify the need for increased funding and provide a springboard for enhanced educational opportunities for biomechanists-in-training. This will enable students and researchers to learn new and emerging technologies to push the research agenda, while developing new biomechanics leaders.

Most barriers in this area simply relate to lack of opportunity to perform short-term internships or sabbaticals in other laboratories or lack of knowledge of the opportunities available.

Objectives

1. To require a cross-disciplinary internship as part of the standard graduate degree programs involving biomechanical research..
2. To encourage the use of the K25 type or R24 type of award mechanisms.
3. To request that the American Society for Biomechanics (ASB) and Gait and Clinical Movement Analysis Society (GCMAS) serve as the facilitating organizations for these cross-disciplinary internships.
4. To encourage creation of a sabbatical program that focuses on novel training opportunities such as clinical exposure for the engineer, biological training for the computer modeling professional or hands-on anatomical training for the imaging scientist.
5. Create opportunities for students, researchers, and clinicians to immerse themselves in complimentary fields to develop biomechanics experts with wider multi-domain expertise.

Recommended Actions

1. Contact all program Chairs with a summary of this recommendation and ask for feedback for or against such a recommendation.
2. Convene a subcommittee of this meeting to consider the feedback from Chairs and revise the recommendations if needed.
3. Contact the ASB Executive Board with a summary of this recommendation and ask for feedback for or against such a recommendation.

4. Convene a subcommittee of this meeting to consider the feedback from ASB and revise the recommendations if needed.
5. Charge the ASB with expanding their educational program to empower a group to write an R24 in collaboration with the American Physiological Society (APS).
6. Charge the ASB with presenting an “ASB Session” at the APS meeting and request that the APS present an “APS Session” at the ASB.