Call for clinical professionals to share their COVID-related experience with engineering student design teams

- What is your role in providing clinical care during the COVID-19 pandemic?
- How has your work changed during this public health emergency?
- Have you encountered challenges that affect your ability to perform your job or provide patient care?
- What are the major obstacles or needs that you anticipate in the coming months?

New this year, the Clinical and Translational Science Center (CTSC) and the College of Engineering (COE) are soliciting engagement by health care professionals to participate in a series of informational interviews focused on COVID-19 challenges. These interviews will support project identification for the COE’s Capstone Senior Design courses, through which undergraduate students have worked closely with clinicians and researchers in the School of Medicine for over a decade to complete projects with clinical, translational, or point-of-care emphasis.

This year student teams will identify an area of need with a COVID-19 focus and propose a project based on a series of pre-recorded informational interviews with health care professionals (clinicians, medical researchers, nurses, technicians). These brief interviews will discuss experiences, challenges and perceptions as to the biggest obstacles or needs they face in the coming months. Following project selection, student teams will work to conceptualize, implement, and test a functional prototype by the end of the course, subject public health constraints. Please see below for an example challenge that may be raised during an informational interview.

Interested health care professionals will be invited to engage with student teams to provide feedback at discrete time points during the academic year:

10/05/20 - 10/16/20 Informational interviews (~10-15 min) with course instructors via Zoom
02/15/21 - 02/19/21 Provide feedback on student team design concepts
05/31/21 - 06/03/21 Attend Biomedical Engineering Design Symposium and critique solutions

Example clinical challenge: One of the primary issues we have when proning is the development of facial pressure ulcers due to limited range of motion/ inability to fully turn patients’ heads to the side, despite the use of specialty pressure relieving pillows. Another issue is the inability to prone patients with fresh trachs. Staff have indicated that we need a device that would extend off the head of the bed that could provide support for the head while minimizing pressure on the cheekbones/around the mouth, and keeping the ETT and vent tubing straight. [Dr. Amy Doroy, Ph.D., RN; Nurse Manager MICU]

If you are willing to participate in an informational interview and/ or provide feedback to student teams, please email Dr. Nicholas Kenyon (nijkenyon@ucdavis.edu), and the course instructor Dr. Jennifer Choi (jhkchoi@ucdavis.edu), by October 7, 2020.

Thank you for supporting translational medicine and engineering education!