

## **Selection of Sponsor and Institution**

**Sponsors:** Dr. Jason Adams is currently an Assistant Professor in the Department of Pulmonary, Critical Care, and Sleep Medicine at University of California Davis Medical Center (UCDMC). Dr. Adams directs a laboratory in efforts to solve large medical challenges through analysis of high frequency waveform data and other information sources. I selected Dr. Adams as my research mentor because of his interdisciplinary approach to research, and because of his belief that greater leveraging of technology in the intensive care unit (ICU) can improve patient outcomes. Dr. Adams and I have also had successful collaborations in the past, and together we have published 2 papers, with 3 more currently in the submission or preparation process. Dr. Adams also specializes in bedside treatment of acute respiratory distress syndrome, (ARDS) and will serve as a valuable resource for helping to improve my fundamental medical knowledge, helping me to craft medically relevant hypotheses, and assisting with annotation of critical events such as identifying ARDS onset.

Dr. Nicholas Anderson is an Associate Professor of Biomedical Informatics, member of the Graduate Group in Computer Science, the Director of Informatics Research for the UC Davis School of Medicine, and Chair of the Health Informatics Graduate Group. Dr. Anderson is well connected to informatics researchers across the country and has provided mentorship for multiple PhD students in the past. I selected Dr. Anderson as a research co-mentor because of his technical skills, and previous work fusing disparate sources of data together into a unified informatics framework. I also selected him because of his deep involvement with the American informatics community, and his commitment to mentoring prospective informaticists. On a personal level, Dr. Anderson has also provided me valuable guidance as I navigated the process of writing papers, communicating effectively, and setting goals in my academic work. Dr. Anderson will help me to network more effectively in the informatics scientific community, and he will serve as a valuable resource for helping to improve my study design methodology, and my leadership and technical skills in informatics research.

**Institution:** I decided to continue attending University of California Davis (UCD) for my PhD because of its nationally recognized Graduate Group in Computer Science, and its conjunction with UCDMC, a nationally recognized medical research center. The spirit of interdisciplinary research at UCD is also very attractive. In my Master's I was able to improve my skills in data analytics, and machine learning working with Dr. Chen-Nee Chuah in the Department of Electrical and Computer Engineering. I was also able to improve my skills in informatics and medical research with Dr. Anderson, and Dr. Adams.

I also believe that my work with Dr. Adams and Dr. Anderson can help address some fundamental questions about ARDS that I would be unable to do elsewhere. Dr. Anderson and Dr. Adams have already collected a large dataset of ventilator waveform data, and we would like to apply this data for novel analytic purposes, like the project proposed herein. I currently know of few other scientific groups in the United States that have a similar interdisciplinary focus to medicine, where I would be able to do similar research. This research group has also been incredibly supportive of my goals to become a better scientist, and the mentors Dr. Adams and Dr. Anderson in particular, have frequently provided mentorship to me beyond scheduled meetings and other professional interactions. As such, UCD is the ideal environment to complete my PhD and address the hypothesis of this proposal.