

## DAIRY INTERVENTION ABSTRACT

Over the past two decades the US dairy industry has moved to a more industrialized, mass production model. With the goal of increased milk production at lower cost, dairy capacity will continue to grow leading to increases in task specialization for workers. The new mega-herd dairy operations will likely increase occupational risk factors for workers. Higher repetition, reduced rest time, awkward postures, and increased close-proximity interactions with the animal increase the risk of cumulative and acute traumatic musculoskeletal injuries. This novel 4-year project is the first US study to address the health and safety of large-herd dairy workers. The study is significant because of the national trend toward mass milk production operations and the lack of research addressing these new working environments. The long-term goal of this project is to reduce the incident of musculoskeletal injuries among dairy workers. Four primary aims will be addressed: 1) identify upper extremity risk factors associated with musculoskeletal symptoms (MSS) among workers in parallel, rotary, and herringbone style dairy parlors, 2) assess the risk for traumatic injury as it related to worker body positioning and animal behavior in different parlor configurations, 3) determine the 12-month period prevalence of MSS among workers in three types of dairy parlors, 4) determine the association between parlor exposures or personal factors with prevalent MSS among workers in dairy parlors, and 5) identify safety interventions through active participatory partnerships with dairy operators. These aims will be accomplished through workers surveys (N=444), an analysis of milking tasks from dairy parlors (N=50 dairy parlors) and focus groups with parlor workers (N=108). Multivariate analysis will be used to test the hypothesis that upper extremity musculoskeletal symptoms are associated with dairy parlor work stressors after controlling for potential confounding variables. The analysis of qualitative data collected during focus groups with workers will be used to build a model of safety intervention use in parlor operations. The proposed project directly addresses 3 priorities identified in the NIOSH request for proposals for Agricultural Research Centers including: projects to reduce the number of unintentional injuries; the use appropriate animal handling facilities; and projects to reduce adverse safety and health events in migrant/seasonal farmworkers.