

**BIOINFORMATICS 2018 Spring SEMINAR SERIES**

Hosted by: Department of Computer and Information Sciences,  
Department of Electrical and Computer Engineering &  
Center for Bioinformatics and Computational Biology  
<http://bioinformatics.udel.edu/Seminars/Current>

**MONDAY, March 12, 2018****3:30pm****DBI Room 102****PerplExosomes: Elucidating the Complexity of Muscle  
Derived Extracellular Vesicles*****Matthew Hudson******Assistant Professor, Kinesiology & Applied Physiology, University of Delaware*****ABSTRACT:**

Skeletal muscle atrophy and/or dysfunction occurs in a variety of conditions and can result in decreased quality of life and mortality. Previous work from our lab established that certain microRNAs in muscle cells play a role in the progression of muscle atrophy and the intracellular level of these microRNAs are altered during atrophy, at least in part, due to incorporation into small lipid vesicles that are released to the extracellular environment. More recent evidence indicates that in addition to microRNAs extracellular vesicles contain a variety of molecular cargo from the originating muscle cell. However, the role and function of muscle derived extracellular vesicles remains largely unexplored. Potentially these extracellular vesicles contribute to pro-pathological paracrine and endocrine signaling by delivering damaging cargo to neighboring and distant cells, thus contributing to disease progression in muscle related disorders. Our lab focuses on characterizing extracellular vesicles and investigating the extent to which extracellular vesicles contribute to pathology and disease progression. Further, we are interested in utilizing circulating extracellular vesicles as biomarkers and the potential use of extracellular vesicles for therapeutic compound or drug delivery.