

CBCB SEMINAR

10/25/2021

3:30-4:30PM

AP BioPharma

Room 140

(590 Avenue 1743)

or via ZOOM:

[https://udel.zoom.us/j/
93442313974](https://udel.zoom.us/j/93442313974)

(Passcode: BINF865)

bioinformatics.udel.edu

BIOINFORMATICS SEMINAR

CARTER ENGLISH

PSM Student UNIVERSITY OF DELAWARE

AN INVESTIGATION INTO OPIOID PRESCRIPTIONS & ED VISITS IN DELAWARE

Across the United States, opioid abuse has been on the rise over the past twenty years and this rise can also be seen here in Delaware. With this rise in opioid abuse and a higher than average prescription rate of opioids compared to the rest of the country, Delaware has worked to implement programs such as the Prescription Monitoring Program (PMP) and Substance Use Treatment and Recovery Transformation (START) to better manage the distribution and use of these drugs. Since 2016, the opioid prescription rate in Delaware has dropped by around 35%, but despite the decrease in opioids dispensed, the number of opioid related deaths has continued to increase, in part due to the presence of fentanyl being on the rise. In an effort to see if the handling of prescription opioids has improved, I worked with the Delaware Health Institute Network (DHIN) to study their distribution in Delaware, as well as ED visits relating to the persons receiving them to look for a change in this population before and after the implementation of the programs mentioned before. During this presentation I will provide a look at the issues relating to opioids in Delaware as they compare to the rest of the country and the program's aims. Following this, I will discuss our approaches to looking at the data and our thought process as we touched on them and what we came to find as we looked at each of these compositions.

ADAM P. FARANDA

PhD Student, Department of Biological Science UNIVERSITY OF DELAWARE

THE AGING LENS TRANSCRIPTOME IN HUMANS AND MICE: IMPLICATIONS FOR AGE RELATED CATARACT

Age related cataract is one of the leading causes of blindness worldwide. When a cataract occurs, the normally clear lens of the eye becomes cloudy and opaque, blocking vision. While we understand many of the environmental factors contributing to cataract in adults, there is still much to learn about the genetic factors that lead to cataract formation in early adulthood or preserve lens clarity over a lifetime. Previously the Duncan lab has investigated the influence of age on gene expression in the lens of the eye using RNA-Seq to profile lens cells in a mouse model of aging. Key findings from the mouse aging study included an age-dependent decline in transcripts for Gamma Crystallins – proteins that help maintain the lens's refractive power, and an increase in the expression of inflammatory markers in lenses from older mice. In a recent extension of this analysis to human lenses, we've determined that as in mice, there appears to be an age dependent decline in transcription of important lens differentiation markers. Here, we evaluate how age dependent transcriptomic shifts in mice and in humans may contribute to cataract formation.