



BIOINFORMATICS 2016 FALL 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, October 3, 2016
3:30pm
DBI Room 102

**GenPro Summer Internship: Enhancing Functional
Annotation of Methylation Sites**

Maddy Macdonald

PhD Student – Bioinformatics & Systems Biology

ABSTRACT: DNA methylation is a type of epigenetic gene regulation where a methyl group is added to cytosines in the dinucleotide CpG. Gene methylation is often associated with the suppression of gene expression, and abnormal DNA methylation patterns have been identified in many diseases. The identification and annotation of genes differentially expressed due to changes in DNA methylation in disease or treatment conditions is a key goal of Genome Profiling, LLC (GenPro). GenPro is a start-up bioinformatics company located in Newark, Delaware, that uses DNA methylation sequencing coupled with a bioinformatics analysis platform to identify differential methylation patterns among different patient or treatment groups.

Summer Internship at Genome Profiling, LLC

Julie Cowart

PSM Student – Bioinformatics

ABSTRACT: In this presentation, I will be sharing my internship experience at local startup, Genome Profiling, LLC (GenPro). GenPro has developed a proprietary analytics platform to analyze methylation profiles and discover novel epigenetic biomarkers. My project was to support the evaluation of that pipeline by developing an in silico tool to generate raw NGS reads with known methylation profiles. The pipeline could then be evaluated for its sensitivity to certain conditions that might affect the capabilities of the platform. I will present some background on GenPro specifically and what it is like working at a startup company. For the second half, I will present my project in detail and the results.