



# COMPUTER SCIENCE SEMINAR SERIES



**Title: Lights Out Science: Harnessing advances in computer science to speed up biomedical research**

**Friday, 3/15/19 | 12pm-1pm | West Hall, W105**

**Speaker: Dayanjan Wijesinghe**

**Affiliation: Virginia Commonwealth University**

**Abstract:** Ultrahigh performance liquid chromatography coupled to high resolution tandem mass spectrometry is an analytical technique that is

heavily employed in biomedical research. This instrument platform has the capacity to separate mixtures of biomolecules first by their individual physicochemical properties and then by mass, which ultimately leads to their identification. Currently, a majority of the post data acquisition processes are undertaken manually leading to significant gaps in time between the acquisition of data, interpretation of results, formulation of new hypotheses and testing those new hypotheses. Advances in computer science, provides several opportunities to overcome these challenges and thereby greatly increase the pace of biomedical research. This presentation will demonstrate several examples of how our lab is working towards using computational approaches to overcome these challenges in order to speed up the rate of human health related discoveries through faster biomedical research outputs.

**Bio:** Dr. Wijesinghe's laboratory focuses on developing precision medicine applications via the use of pharmacometabolomics approaches. Due to the novelty of this particular discipline they often have to develop computational approaches to overcome data analysis challenges. As such, the laboratory is involved in developing new approaches towards data visualization, data analysis, additive manufacturing and robotics. You can find more about Dr. Wijesinghe's laboratory and their work by visiting their website at, <https://metabolomics.pharmacy.vcu.edu/> or by visiting the lab's facebook page at <https://www.facebook.com/pharmacometabolomics/>



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