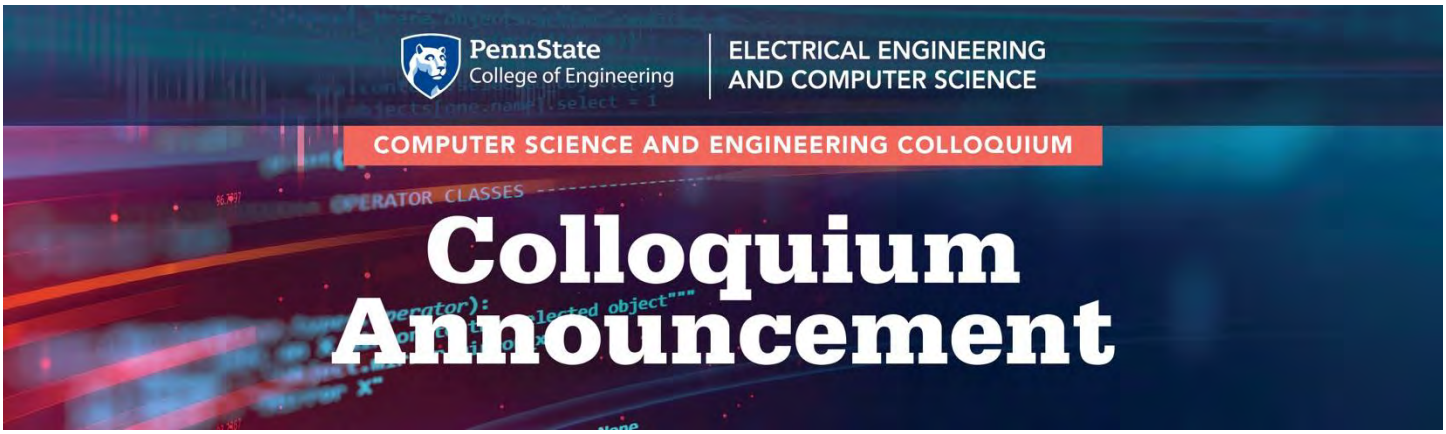

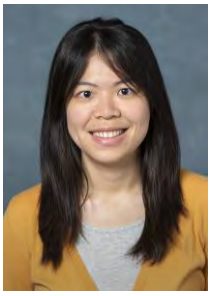

PEI-CHEN PENG
Postdoctoral Scientist – Cedars-Sinai Medical Center

Wednesday, January 19, 2022 at 1:00 PM

Zoom Information
Join from PC, Mac, Linux, iOS or Android:
https://psu.zoom.us/j/99754532438?pwd=Mm1VcWk4OEd3dVdRUFdOeU9tZUt3QT09
Password: 274021
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+1 312 626 6799 (US Toll)
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Meeting ID: 997 5453 2438
Password: 274021
International numbers available: https://psu.zoom.us/u/adopEZmRcM

Faculty Host
Kamesh Madduri

Research Area
BioInformatics

KNOWLEDGE-GUIDED PROBABILISTIC FRAMEWORKS FOR PRECISION CANCER MEDICINE

ABSTRACT

Precision cancer medicine leverages advances in genomics and computational methods towards a better life. The genomic data has to be integrated with diverse biomedical information and analyzed through biologically interpretable computational methods, before they can lead to biomedical discoveries.

In this talk, I will discuss my research on integrating diverse biomedical data types to understand cancer. First, I will describe a genome-to-disease bioinformatic pipeline that identifies the underlying cause of ovarian cancer initiation and development. Next, I will present a probabilistic model that predicts gene's expression and provides experimentally testable hypotheses in embryonic development. These knowledge-guided probabilistic frameworks explore fundamental aspects of cancer biology and transform the way of scientific discovery. Finally, I will address promising directions for catalyzing a new era of data-driven precision cancer medicine.

BIOGRAPHY

Pei-Chen Peng (http://www.peichenpeng.com/) is a postdoctoral scientist at Cedars-Sinai Medical Center, working with Dr. Simon Gayther. Her research focuses on machine learning and statistical modeling of heterogenous multi-omics data to improve the prevention and treatment of cancer and other diseases.

She obtained her Ph.D. in Computer Science from University of Illinois at Urbana-Champaign in 2018, advised by Prof. Saurabh Sinha. She holds a M.S. and a B.S. in Computer Science from National Taiwan University. She received an NIH/NCI Early K99/R00 Pathway to Independence Award in 2021 and a Google Anita Borg Award in 2012. She was also recognized as a Rising Star in Electrical Engineering and Computer Sciences in 2019.