

CALIFORNIA STATE UNIVERSITY, LONG BEACH

THE MATHEMATICS COLLOQUIUM

Presents

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Speaking on

A Pharmacogenomic Approach to Predicting Anticancer Resistance

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Abstract: Among the large number of transport proteins and potential drug substrates, only a fraction of the possible pharmacological interactions have been investigated. Even for known resistance-associated transporters, such as ABC transporters, a relatively small number of them have been extensively characterized for specific drug substrates. Although advances in understanding of cancer biology and response to anticancer treatment have benefited from genomic studies, a systematic approach for integrating information from multiple sources is needed for identifying novel transporter-drug interactions and for predicting transporter-associated multi-drug resistance. I will present a pharmacogenomic approach, which uses the relationships between transporter gene expression and anticancer drug potency tested against the NCI-60, a panel of 60 diverse human cancer cell lines from the National Cancer Institute (NCI), and how it has been used to identify novel transporter-drug interactions.