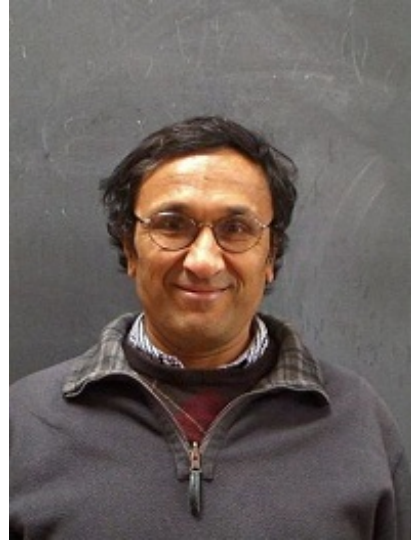


***Biophysics and Systems Biology  
Seminar Series***

**Gyan Bhanot**

**Professor in the Department of  
Physics & Astronomy & Molecular  
Biology & Biochemistry**

**Rutgers University**



**“Personalized Medicine and Immune  
Checkpoint Therapy”**

**Abstract:**

Traditional methods of cancer treatment, still widely practiced, are based on tumor histology/morphology. However, they often result in poor treatment outcome. At most cancer centers, there is a major push towards more personalized treatment protocols, based on analysis of patient specific tumor microenvironment and genetics. A major advance in such personalized medicine is immune checkpoint blockade, discovered by James P Allison and Tasuku Honjo, for which they were awarded the 2018 Nobel Prize in Physiology or Medicine. Since targeted therapy such as this has significant side effects, a major challenge is to identify patients likely to respond to a specific therapy. Advances in sequencing technologies and algorithms to quantify cell fractions makes it possible to understand the biology of individual cancers and stratify patients into response/non-response classes for targeted therapy. I will describe several case studies where we were able to use simple computational methods to identify biomarkers, such as driver mutations, a high mutational load, a viral signature etc., which suggested specific therapies and resulted in dramatic responses in patients.

**Thursday, January 16, 2020 at 10:00AM  
Rowland Hall 142**

**Hosts: Kerrigan Blake and Professor Clare Yu**

**If you're interested in meeting with Dr. Bhanot, please contact Jun Allard  
([jun.allard@uci.edu](mailto:jun.allard@uci.edu)) or Clare Yu ([cyu@uci.edu](mailto:cyu@uci.edu)).**