Indian Institute of Science
Centre for BioSystems Science and Engineering

BSSE Seminar

24th April 2019, 4:00 PM, MRDG Seminar Hall, 1st floor, Biological Sciences Building

Enhancing tumor immunogenicity for cancer therapy

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ABSTRACT

Immune checkpoint inhibitors (ICI) have produced durable anti-tumor responses in a variety of cancer types but the response rates have been low. Hence there is an urgent need to find combinations that enhance the percentage of responders to ICI. ICI-responsive tumors tend to have higher mutational burden than those that are not responsive, suggesting that neo-antigen load and ability to prime T-cell responses are major determinants of long-lasting therapeutic responses. While chemotherapy continues to be the mainstay of cancer treatment, relapse of therapy resistant forms of the disease has been a major challenge. My talk will cover aspects of our recent work on finding ways to effectively combine chemotherapy and immunotherapy by utilizing specific forms of tumor cell/stress or death that induce dendritic cell – mediated CD8+ T-cell priming. I will also highlight challenges faced herein and the need to engineer/formulate and target chemotherapy to specific cell types for effective combination with immunotherapy.

ABOUT THE SPEAKER:

Dr. Ganapathy Sriram is currently a Mazumdar-Shaw International Oncology Fellow at the David H. Koch Institute of Integrative Cancer Research, MIT. He completed his doctoral training in cancer biology from Rutgers School of Biomedical and Heath Sciences in 2014 and has over 10 published papers to his credit. His current research interests are to develop clinically effective combinations of DNA-damaging chemotherapy and immune-activating checkpoint blockade therapy to enhance response rates and durability of response in patients with cancer. He is also interested in understanding the roles of the immune system in cancer development and progression.