# October **14th**, 2022 – **10am** at **CRBS Auditorium**

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## "Multidimensional immunoengineering approaches to enhanced cancer immunotherapy"

*by Pr.* ***Li Tang***

*Seminar chaired by* ***Jacky Goetz***

*Abstract*

*Our immune system interacts with many diseases in a multidimensional manner involving substantial biological, chemical, and physical exchanges. Manipulating the disease-immunity interactions may afford novel immunotherapies to better treat diseases such as cancer. My lab aims to develop novel strategies to* ***engineer the multidimensional immunity-disease interactions*** *(or termed 'immunoengineering') to create safe and effective therapies against cancer. We leverage the power of metabolic and cellular bioengineering, synthetic chemistry and material engineering, and mechanical engineering to achieve controllable modulation of immune responses.*

*In this talk, I will first discuss a* ***new type of immune checkpoint with mechanical basis*** *that is distinct from most know immune checkpoints of biochemical traits. We further developed a mechanical intervention to overcome the mechanical immune checkpoint for enhanced cancer immunotherapy. Next, I will share* ***our recent discovery of IL-10-Fc as a metabolic reprogramming agent*** *that reinvigorates the terminally exhausted $CD8^+$ tumor infiltrating lymphocytes and sustains their cytotoxic functions leading to eradication of established solid tumors and durable cures in a majority of treated mice when combined with adoptive T-cell transfer immunotherapies.*