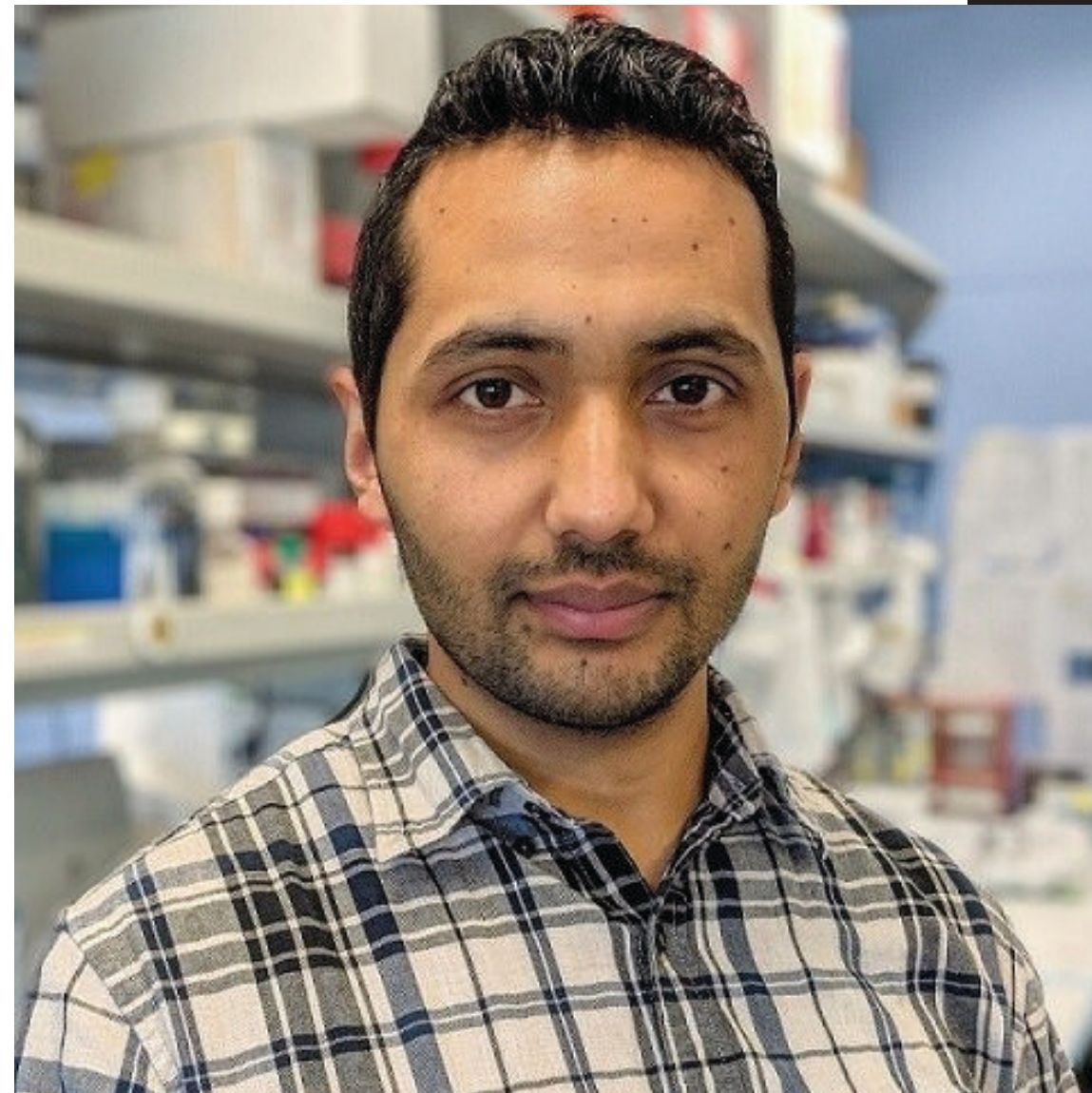




Department of Basic  
Medical Sciences



## ENGINEERING ADVANCED CARs TO ENHANCE T CELL THERAPY FOR CANCER

Thursday, March 27 | 9:00 AM

Drug Discovery Lobby Conference Room

SEMINAR 9:00 AM | CHALK TALK 10:00 AM

**DR. PRADIP BAJGAIN, PhD**

-CANDIDATE FOR TENURE-TRACK  
ASSISTANT PROFESSOR OF BASIC MEDICAL SCIENCES

Chimeric antigen receptors (CARs) are synthetic proteins which utilize tumor antigen-specific antibodies to redirect T cell immunity against cancer. Adoptive transfer of CAR-engineered T cells has revolutionized the treatment of some hematologic malignancies; however, majority of cancer types, particularly solid tumors, have proven largely refractory. This inefficient efficacy is primarily due to limited functional capacity and *in vivo* persistence of CAR-modified T cells often caused by sub-optimally designed CARs and tumor-induced immunosuppression. Mitigation of such barriers by employing rational approaches to develop CARs and modify T cells could augment the therapeutic potential of CAR-based therapies. This presentation will discuss our recent work on novel CAR engineering strategies to enhance the potency of T cell therapies for cancer with emphasis on the development of: (i) minimally immunogenic fully human CARs targeting B7-H3 — a pan-cancer antigen with immune checkpoint roles, and (ii) a novel fragment antigen binding (Fab) CAR strategy to alleviate premature T cell dysfunction due to constitutive activation driven by CAR tonic signaling.