Jun Wang, PhD, new research Faculty!

Dr. Jun Wang, recently joined our group of talented faculty as Assistant Professor in our department. His lab is located on the 3rd floor of Smilow Building. Jun joined NYU after a really productive postdoc in the Chen lab at Yale, where he published remarkable results studying immune suppressors for cancer immunotherapy. We are thrilled to have him on our team and we are looking forward to seeing his impressive research skills further strengthen our core of talented investigators.

Dr. Jun Wang is currently an assistant professor at Department of Pathology and the Laura and Isaac Perlmutter Cancer Center of NYU Langone Health who has been working on cancer immunology and immunotherapy for over fifteen years. He finished his postdoctoral research in Dr. Lieping Chen's laboratory at Johns Hopkins Medicine and the Yale Department of Immunobiology, and was promoted as a research faculty and a research member at Yale Cancer Center. While his stay at Yale and Hopkins, he was focused on the characterization the immunological function of novel receptor-ligand pathways and how to best utilize them as potential targets for cancer immunotherapy. He discovered Siglec-15, an immune suppressive molecule highly expressed on tumor cells/tumor-associated macrophages, which represents an unique immune evasion mechanism with mutually-exclusive expression pattern to PD-L1 in human cancers. The related phase I/II clinical trials targeting the Siglec-15 pathway are currently ongoing at Yale and NYU, in addition to other sites, and have showed some promising single agent activities in PD-1 refractory cancers. He also discovered FGL1 as a major and high-affinity ligand for LAG-3, another important T cell inhibitory receptor, and is responsible for LAG-3 immune inhibitory function independent of its canonical ligand---MHC-II. FGL1 was found to be abundant in several human cancers including lung adenocarcinoma, and has important prognostic value for immunotherapy. Moreover, Dr. Wang also examined the mechanisms of anti-tumor efficacy versus liver toxicity of agonistic anti-CD137 (4-1BB) therapy and provided new insights for alleviating liver pathology without disruption of anti-tumor immunity. Those discoveries, along with several genome-scale proprietary screening platforms built by Dr. Wang, led to valuable industrial partnerships, some of which formed the basis of Yale spin-out, *NextCure, Inc.*

The advent of immunotherapy has revolutionized the current cancer treatment. The durable clinical success of PD-1/PD-L1 blockade illustrates the key concept of targeting immune-evasion mechanisms within the tumor microenvironment to restore tumor-specific immunity. However, given that a substantial subset of patients does not respond to or develop resistance to anti-PD-1/PD-L1 therapy, there is a great unmet need to discover novel mechanisms that enable immune escape and to utilize these pathways to modulate anti-tumor immunity within the tumor-site for cancer immunotherapy.

The Jun Wang laboratory at NYU is interested in further understanding the immunobiology of FGL1/LAG-3, Siglec-15 pathways, and more; developing suitable disease model systems as well as precise biomarkers to facilitate their clinical utilization. In parallel, the Wang Lab is developing more cancer-relevant discovery strategies to

identify key pathways responsible for immune evasion within the tumor microenvironment, especially those beyond tumor-T cell interactions.

With the mission of designing innovative therapeutic programs that fine-tunes immunity in the disease lesion for the optimal control of cancer with minimal immune toxicities, the Wang Laboratory is complementary to the vibrant research environment at Department of Pathology, and to the larger NYU Langone Health Community. In collaboration with both basic and clinical researchers at NYU, Dr. Wang's laboratory will define key immune modulatory pathways and potentially contribute to the next-generation cancer immunotherapies.