

# Industrial & Molecular Pharmaceutics Seminar

## IMPH 69600

Wednesday, March 27, 2024  
4:30 PM in RHPH 164

*“SARS-CoV-2 B Epitope-Guided Neoantigen Cancer Vaccine”*



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Neoantigen cancer vaccines using peptide or mRNA have shown promising anticancer efficacy in preclinical and clinical testing in melanoma, colon and pancreatic cancer patients. Their efficacy is achieved through dendritic cell-mediated antigen presentation to activate CD4/CD8 T cell antitumor immunity. Most recent studies discovered that tumor infiltrating B cells are positively associated with better responses to anti-PD-1 immunotherapy in patients with various cancer types. However, it is unclear whether traditional B cell immunity or other B cell functions are crucial for its beneficial anticancer efficacy, while B/CD4 T cell crosstalk is essential for CD4/CD8 T cell antitumor immunity. Yet, current neoantigen vaccines using CD4/CD8 T epitopes are unable to promote B/CD4 T cell crosstalk. In this presentation, Dr. Sun will discuss a new strategy to design SARS-CoV-2 B epitope-guided neoantigen cancer vaccines using peptide or mRNA to promote the crosstalk between SARS-CoV-2 B cells and tumor CD4 T cells, through B cell-mediated antigen presentation, for improving cancer immunotherapy.