

SIgN SEMINAR

Hosted by Dr Wei WU

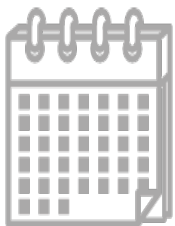


Dr Wei TANG

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Engineering Biomaterials for Potent Cancer Vaccination and Immunotherapy

Cancer vaccines hold great promise for advancing immunotherapy but face persistent challenges, including limited antigen diversity, insufficient dendritic cell activation, and the immunosuppressive tumor microenvironment (TME). This seminar will highlight how advances in nanomaterial design can address these barriers through rational materials engineering. Dr Tang will discuss the development of biomineralized metallic nanoparticles that activate the STING pathway to remodel the TME and elicit potent in situ vaccination. She will also present tumor-derived extracellular vesicle and nanovesicle platforms that leverage intrinsic antigen diversity for personalized cancer immunotherapy. Finally, Dr Tang will introduce their recent work on developing nanomaterials for circular mRNA nanovaccines that optimize mRNA delivery and amplify immune activation, as well as engineering circular mRNA platforms that enable tumor-specific translation of protein therapeutics to minimize off-target toxicity. Together, these efforts illustrate how materials-driven strategies can be leveraged to program immune responses and advance next-generation cancer immunotherapy.



**02 December 2025 (Tuesday)
10 – 11 AM (Singapore Time)**

**SIgN Seminar Room
8A Biomedical Grove, Immunos, #04-06
Singapore 138648**

*Seminar is
open for all
to attend.*

*Registration
is not
required.*

