ENGINEERING OF ANTI-CANCER G-QUADRUPLEX NUCLEIC ACIDS AND ANTI-BACTERIAL PROTEIN FIBERS

Functional synthetic biopolymers are widely used in therapeutic treatment and medical devices. A novel G-quadruplex nucleic acid, derived from a profound aptamer AGRO100 which is applied in clinical trial for anti-cancer treatment, was explored in its structural conformation and bioactivity. This monomeric G-quadruplex can be an alternative of AGRO100 aptamer, for deeper exploration on the anti-cancer mechanism as well as drug design for therapeutic treatment. In another work, a recombinant protein derived from elastin was synthesized and induced to self-assemble and form a fiber platform for silver nanoparticles formation. The silver-coated protein fibers exhibited the anti-bacterial properties on E. coli and S. aureus. This synthetic protein is potent for an anti-bacterial coating biomaterial in medical devices.

Date: 2 January 2018
Time: 2 PM
Venue: Conference Room, SPMS Level 2
Research & Graduate Studies Office
Supervisor: Prof Phan Anh Tuan