
SynCTI SEMINAR SERIES

NUS Synthetic Biology for Clinical and Technological Innovation (NUS SynCTI)
Member of Singapore Consortium for Synthetic Biology (Sinergy)



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Innovations in Cell-Free Synthetic Biology

Cell-free transcription-translation systems were originally applied towards *in vitro* protein production. More recently, synthetic biology is enabling these systems to be used within a systematic design context for prototyping DNA regulatory elements, genetic logic circuits and biosynthetic pathways. My talk will explore innovations in cell-free synthetic biology using examples from my own research including the establishment of cell-free methods and toolkits for new bacterial strains, most recently *Bacillus subtilis* as well as the development of an *E. coli* cell-free system for prototyping biopolymers (PHA-based bioplastics).

Biography

Dr Richard Kelwick is an entrepreneurially driven research associate, at Imperial College London, with expertise in both cancer biology and synthetic biology. Dr Kelwick has a Ph.D. in cancer biology, during which he researched the protective roles of metalloproteinases in cancer. His research led to mechanistic insights into the protective roles of a disintegrin-like and metalloprotease with thrombospondin type motif 15 (ADAMTS15) in breast cancer. Upon moving to Imperial, Dr Kelwick has focused on developing expertise in cell-free synthetic biology, where he has generated several microbial cell-free transcription-translation systems for use as rapid prototyping applications.

2 March 2018, Friday | 2 pm to 3 pm
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Hosted by A/P Poh Chueh Loo