

Research Theme: Bioinformatics
Research Project Title: Improved computational models for peptide/HLA interactions with T cells and natural killer cells
Principal Investigator/Supervisor: Mu Yuguang
Co-supervisor/ Collaborator(s) (if any):
Project Description a) Background: The datasets under investigation thus encompass the peptide-presenting HLA (human leukocyte antigen) molecules, the repertoire of peptides presented, the T cell receptors (TCR) and killer immunoglobulin-like receptors (KIR) recognising the peptide-HLA complex, as well as RNA-sequencing data describing the nature of immune response at the transcriptomic level. A specific illustration of this work can be seen in the involvement since 2004 of the ICL groups in the US NIH-NIAID-funded 'Immune Epitope Database' (www.iedb.org). b) Proposed work: Development of new computational tools allowing prediction, optimisation and manipulation of defined stimulatory or inhibitory interactions, creating a collaborative interface between wet-lab empirical datasets and new bioinformatics-based approaches.
Supervisor contact: ygm@ntu.edu.sg If you have questions regarding this project, please email the Principal Investigator:
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