Title: Some Applications of Graph-packing on Group Testing

Speaker: Hung-Lin Fu  
Department of Applied Mathematics  
National Chiao Tung University,  
Hsin Chu, Taiwan 30050

Abstract: An $H$-packing of a graph $G$ is a collection of edge-disjoint subgraphs of $G$ each of them is isomorphic to $H$. If $G$ is the complete graph of order $n$ and the union of subgraphs in an $H$-packing is $G$, then we have an $H$-design of order $n$. In this talk, I’ll first introduce an $H$-packing of order $n$ where $H$ is the Cartesian product of two complete graphs $K_r$ and $K_c$. For convenience, $H$ is called an $r \times c$ grid-block. Then, I shall report how to apply an $r \times c$ grid-block design or a resolvable $r \times c$ grid-block packing to DNA Library Screening.