

## INVITATION TO THE LECTURE

APRIL 22, 2026

12:30

ROOM 213

# FAST PARALLEL BEM BY CLIQUE COVERINGS OF COMPLETE GRAPHS

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The speaker will discuss coverings of complete graphs by small cliques, motivated both by design theory and by applications to parallel fast boundary element methods. When several clique sizes are allowed, minimising only the number of blocks is often not sufficiently informative, so we instead optimise the excess, that is, the number of edges covered more than once, together with the total number of blocks. The speaker will present sharp results for coverings with triangles and 4-cliques, discuss extensions allowing 5-cliques, including some remaining open cases, and explain how these constructions connect to practical load-balancing models for fast BEM.