DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
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COMPUTER SCIENCE COLLOQUIUM

Extensions of Moon's and Alspach's theorems on tournaments to multipartite tournaments

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Abstract:

A vertex (an arc, respectively) of a digraph D is called pancyclic, if it lies on a cycle of length t for all $t \in \{3, \ldots, |V(D)|\}$. Moon (*On subtournaments of a tournament.* Canad. Math. Bull. **9**, 1966) proved that every strong tournament is vertex-pancyclic and Alspach (*On Cycles of each length in regular tournaments.* Canad. Math. Bull. **10**, 1967) confirmed that every regular tournament is arc-pancyclic.

Since multipartite tournaments don't have the same vertex- and arc-pancyclicities as tournamnets, we have tried to extend the classical cycle concept to multipartite tournaments in various ways.

In this talk, we will give an overview of quasi$_x$-pancyclicities, $x \in \{$p, l, o, nl, ps$\}$, and pandash-cyclicity in multipartite tournaments and leave a few open problems on this topic.