On directed Oberwolfach problem with tables of even lengths

Alice Lacaze-Masmonteil[(1)]

[(1)] Department of Mathematics and Statistics, University of Regina

A $(\vec{C}_{m_1}, \vec{C}_{m_2}, \ldots, \vec{C}_{m_t})$-factor of a directed graph G is a spanning subdigraph of G comprised of t disjoint directed cycles of lengths $m_1, m_2, \ldots, m_t$, where $m_i \geqslant 2$. In this talk, we will be constructing a decomposition of the complete symmetric digraph K^*_{2n} into $(\vec{C}_{m_1}, \vec{C}_{m_2}, \ldots, \vec{C}_{m_t})$-factors when $m_1 + m_2 + \cdots + m_t = 2n$, $t \geqslant 3$, and n is odd. The existence of this decomposition implies a complete solution to the directed Oberwolfach problem with t tables of even lengths and $2n$ guests such that n is odd. This is joint work with Andrea Burgess and Peter Danziger.