**HUGH THOMAS**, University of New Brunswick
*Lexicographically first subwords in Coxeter groups and quiver representations*

Fix a reduced word for the longest element $w_0$ of a finite Coxeter group $W$, and then, for each $w \in W$, find the lexicographically first reduced subword for $w$ in the fixed word for $w_0$. Sorting order, introduced by Drew Armstrong in 2007, is inclusion order on these subwords. Lexicographically first reduced subwords also play an important role in total positivity, where they go by the name of "positive distinguished subexpressions": leftmost reduced words in a maximal Grassmannian permutation naturally index cells in the totally positive part of the corresponding Grassmannian. It turns out that for certain reduced words for $w_0$ (those which are $c$-sorting words), including those relevant for total positivity of Grassmannians, the lexicographically first subwords can be described using quiver representations. I will explain this (without assuming prior knowledge of representation theory of quivers). This talk will be based on joint work with Steffen Oppermann and Idun Reiten, arXiv:1205.3268.