

**JANE HE**  
**Carleton University**

*The path ideal of a tree and its properties*

Given a tree  $G$ , we consider the path ideal  $I_t(\Gamma)$ , that is, the ideal where every generator corresponds to a path of length  $t$  in  $\Gamma$ . When this path ideal is regarded as a facet ideal of a simplicial complex, that is, we view every generator of the path ideal as a facet of this simplicial complex, we show this simplicial complex is actually a simplicial tree. By using a property of a simplicial tree due to Faridi, we prove that  $R/I_t(\Gamma)$  is sequentially Cohen-Macaulay.