

# On the achromatic number of a family of trees

Rafael López Bracho  
UAM–Azcapotzalco

(joint work with Víctor Neumann–Lara)

The Achromatic Number  $\Psi(G)$  of a graph  $G$  is the largest number of colors that can be assigned to the vertices of  $G$  so that i) different colors are assigned to adjacent vertices, and ii) Any two different colors are assigned to some pair of adjacent vertices. A graph  $G$  is critical  $m$ -achromatic if  $\Psi(G) = m$  and  $|A(G)| = \binom{m}{2}$ . A tree  $T$  is an odd tree if all the vertices of  $T$  have odd degree. A subdivision  $G'$  of a graph  $G$  is  $K_{2m}$ -admissible if  $|A(G')| = \binom{2m}{2}$ . We will prove that if  $T$  is an odd tree of order  $2m$ , then every  $K_{2m}$ -admissible subdivision of  $T$  is critical  $2m$ -achromatic.