

# Strong Bridges and Strong Articulation Points of Directed Graphs

Giuseppe F. Italiano

University of Rome 'Tor Vergata'

**Abstract.** Given a directed graph  $G$ , an edge is a strong bridge if its removal increases the number of strongly connected components of  $G$ . Similarly, a vertex is a strong articulation point if its removal increases the number of strongly connected components of  $G$ . Strong articulation points and strong bridges are related to the notion of 2-vertex and 2-edge connectivity of directed graphs, which surprisingly seems to have been overlooked in the past. In this talk, we survey some very recent work in this area, both from the theoretical and the practical viewpoint.