1115-52-184 **Daniela Maftuleac*** (dmaftule@uwaterloo.ca), David R. Cheriton School of Computer Science, 200 University Avenue West, Waterloo, Ontario N2L 3G1, Canada. *Shortest path problem in CAT(0) rectangular complexes.* Preliminary report.

CAT(0) metric spaces constitute a far-reaching common generalization of Euclidean and hyperbolic spaces and simple polygons: any two points x and y of a CAT(0) metric space are connected by a unique shortest path. In this talk, we present an efficient algorithm for answering two-point distance queries in two-dimensional CAT(0) cube complexes (or also called CAT(0) rectangular complexes) and two of theirs subclasses, ramified rectilinear polygons (CAT(0) rectangular complexes in which the links of all vertices are bipartite graphs) and squaregraphs (CAT(0) rectangular complexes arising from plane quadrangulations in which all inner vertices have degrees ≥ 4). (Received September 16, 2015)