1094-46-94 **Valentin Deaconu*** (vdeaconu@unr.edu), Dept of Math & Stat 0084, University of Nevada, Reno, NV 89557, and **Alex Kumjian** (alex@unr.edu), Dept of Math & Stat 0084, University of Nevada, Reno, NV 89557. *Group actions on graphs and groupoids.*

Let the group G act on a directed graph E. If E is row-finite and has no sources, then G acts also on the groupoid $\Gamma = \Gamma(E)$.

Let ρ be the representation of G on the C^*-correspondence $\mathcal{H}_E$ determined by E. Then G acts on the Cuntz-Pimsner algebra $C^*(E) = C^*(\Gamma)$. For example, if G finite acts on the graph with one vertex and n loops, then we get an n-dimensional representation ρ of G and an action on the Cuntz groupoid and on the Cuntz algebra $\mathcal{O}_n$. Our goal is to study the fixed point algebra $C^*(E)^G$ and the crossed product $C^*(E) \rtimes G = C^*(\Gamma \rtimes G)$ when G is compact and E is arbitrary.

If G and E are finite, we prove that $C^*(E) \rtimes G$ is isomorphic to the C^*-algebra of a graph of (minimal) C^*-correspondences, constructed using the orbits in E^0 and E^1 and the characters of the stabilizer groups.

As a consequence, $C^*(E) \rtimes G$ is strongly Morita equivalent to a graph algebra, so its K-theory can be computed. The group G acts also on the core AF-algebra $C^*(E)^{\mathbb{T}}$ and $C^*(E)^{\mathbb{T}} \rtimes G \cong (C^*(E) \rtimes G)^{\mathbb{T}}$. (Received August 13, 2013)