1007-20-208 **Daniel S Farley*** (farley@math.uiuc.edu), 407 E. Fairlawn Dr., Urbana, IL 61801. *The Action of Thompson's Group on a CAT(0) Boundary.*

One long-standing open question is to determine whether Thompson's group F is amenable. A theorem of Adams and Ballmann says that an amenable group acting isometrically on a locally compact CAT(0) space either has a global fixed point on the boundary at infinity or an invariant flat. Thus, one approach to demonstrating that Thompson's group F is non-amenable is to find a locally compact CAT(0) space such that F has no global fixed point at infinity. (It is clear that F cannot have an invariant flat if, for example, F acts properly and isometrically.)

I will describe the action of Thompson's group F on the boundary of a natural CAT(0) cubical complex, and prove that the (global) fixed point set is an arc at infinity of Tits length $\pi/2$. This leaves the question of amenability open. The talk will give a not-yet-complete picture of this space at infinity. (Received February 21, 2005)