Covers of reductive groups and functoriality

In the study of the Langlands program one often comes in contact with subgroups of the L-group of a connected reductive group $G$ that have a similar appearance as the L-group of a smaller group $H$, but often either fail to be isomorphic to the L-group of $H$, or fail to have a canonical isomorphism with it. We propose a resolution to this problem by constructing certain (non-linear) covers of the topological group $H(F)$ as well as L-groups for these covers. This works for any local field, and follows work of Adams-Vogan for the real numbers. We will present two applications to this construction: A unique characterization of the local Langlands correspondence for supercuspidal parameters (subject to conditions on the base field), and a reinterpretation of the transfer factors in the theory of endoscopy.