1096-76-2641 **Loren Cobb*** (loren.cobb@ucdenver.edu), Dept of Mathematics, University of Colorado Denver, **Lynn Bennethum** (lynn.bennethum@ucdenver.edu), Dept of Mathematics, University of Colorado Denver, and **Mark Mueller** (mark.mueller@ucdenver.edu), Dept of Mathematics, University of Colorado Denver. *Modeling Refugee Flow with the Continuum Mechanics of Porous Media.* Preliminary report.

Recent developments in the continuum mechanics methods for multiphase and multicomponent porous media offer some unexpected benefits for modeling the flow of refugees during complex humanitarian emergencies. We develop the appropriate conservation and constitutive equations in the context of intense ethnic conflict, and show how these equations generate plausible mass refugee movements under the influence of two scalar fields: perceived threat, and terrain conditions. Finally, we show how both the Eulerian and Lagrangian views translate into radically different but complementary computational social simulation strategies. This research was supported by NSF grant DMS-1216481. (Received September 17, 2013)