1116-35-635 **Tracy L. Stepien*** (tstepien@asu.edu), School of Mathematical & Statistical Sciences, Arizona State University, P.O. Box 871804, Tempe, AZ 85287-1804, and **Hal L. Smith** (halsmith@asu.edu), School of Mathematical & Statistical Sciences, Arizona State University, P.O. Box 871804, Tempe, AZ 85287-1804. *Existence and uniqueness of similarity solutions of a generalized heat equation arising in a model of cell migration.*

We study similarity solutions of a nonlinear partial differential equation that is a generalization of the heat equation. Substitution of the similarity ansatz reduces the partial differential equation to a nonlinear second-order ordinary differential equation on the half-line with Neumann boundary conditions at both boundaries. The existence and uniqueness of solutions is proven using Ważewski's Principle. (Received September 09, 2015)