

1067-35-956

Jeffrey R. Anderson, Keng Deng and **Zhihua Dong*** (zxd5200@louisiana.edu),
Department of Mathematics, University of Louisiana at Lafayette, Lafayette, LA 70503. *Global
Solvability for the Heat Equation with Boundary Flux Governed By Nonlinear Memory.*

We introduce the study of global existence and blow-up in finite time for the heat equation with flux at the boundary governed by a nonlinear memory term. Via a simple transformation, the model may be written in a form which has been introduced in previous studies of tumor-induced angiogenesis. The present study is also in the spirit of extending work on models of the heat equation with local and nonlocal nonlinearities present in the boundary flux. (Received September 16, 2010)