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Youssef N Raffoul* (yraffoul1@dayton.edu), 300 Coollege Park, Dayton, OH 45469-2316,
and **Murat Adivar** and **Muhammad Islam**. *LARGE CONTRACTION AND EXISTENCE OF
PERIODIC SOLUTIONS IN TOTALLY NONLINEAR DELAY DIFFERENTIAL EQUATIONS.*

In this talk we give a classification theorem providing sufficient conditions for an operator to be a large contraction. Then we use a modified version of Krasnoselskii's fixed point theorem and show that the nonlinear functional differential equation

$$x'(t) = -a(t)h(x(t)) + G(t, x(t - r(t))),$$

has a non-zero periodic solution and a positive periodic solution. (Received February 10, 2017)