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Yixiang Wu* (yxw2228@louisiana.edu), 200 Theater Street, Apt 533, Lafayette, LA 70506, and
Keng Deng. *Long Time Behavior for a Reaction-Diffusion Population Model with Delay.*

In this talk, we consider a reaction-diffusion population model with time delay in an unbounded domain. By introducing a new auxiliary function, we first establish a comparison principle for coupled upper/lower solutions. Our new auxiliary function is useful to prove comparison principles for other reaction-diffusion models in unbounded domain. We then prove the existence and uniqueness result for the model. Finally, we show the global asymptotic behavior of the model by constructing a sequence of successively improved upper/lower solutions. (Received January 16, 2015)