

1125-35-1741

Rachidi Bolaji Salako* (rbs0016@auburn.edu) and **Wenxian Shen**. *Global existence and asymptotic behavior of classical solutions to a parabolic-elliptic chemotaxis system with logistic source on R^N .*

Keller-Segel equations are used to illustrate the time evolution of mobile species toward the gradient of a chemical substance. Such systems are referred to as chemotaxis systems. Considering the classical Keller-Segel Parabolic-Elliptic/Parabolic chemotaxis systems, in the absence of logistic source, it is known that finite-time blow up of non-negative solutions can occur when the spatial dimension is greater or equal 2, but never occurs in the case that the spatial dimension is equal to 1. In this talk, we consider a Parabolic-Elliptic chemotaxis system with logistic source and prove : (i) Local /Global existence of classical solution for various nonnegative initial functions, (ii) Asymptotic behavior of classical solutions. We shall also discuss about some on going works about the existence of front propagation and spreading speeds . (Received September 19, 2016)