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Rachidi Salako, Wenxian Shen* (wenxish@auburn.edu) and **Shuwen Xue**. *Can chemotaxis speed up or slow down the spatial spreading in parabolic-elliptic Keller-Segel systems with logistic source?*

This talk is concerned with the spatial spreading speed of the following Keller-Segel chemoattraction system,

$$\begin{cases} u_t = u_{xx} - \chi(uv_x)_x + u(a - bu), & x \in \mathbb{R}, \\ 0 = v_{xx} - \lambda v + \mu u, & x \in \mathbb{R}, \end{cases}$$

where χ , a , b , λ , and μ are positive constants, and $u(t, x)$ and $v(t, x)$ represent the population densities of a mobile species and a chemo-attractant, respectively. It is well known that, in the absence of chemotaxis (i.e. $\chi = 0$), the population of the mobile species spreads at the asymptotic speed $c_0^* = 2\sqrt{a}$. It will be shown in this talk that the chemotaxis neither speeds up nor slows down the spatial spreading of the mobile species provided that the logistic damping constant b is large relative to the chemotaxis sensitivity coefficient χ . (Received September 12, 2020)