

ACMS Applied Math Seminar



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Thursday, March 30, 2023
154 Hurley Hall
3:30 PM – 4:30 PM

Finite Element Numerical Schemes For A Chemo-Attraction and Consumption Model

During this talk I will introduce and compare several finite element numerical schemes to approximate a chem-attraction model with consumption effects, which is a nonlinear parabolic system for two variables: the cell density and the concentration of the chemical signal that the cell feel attracted to. I will detail the main properties of each scheme, such as conservation of cells, energy-stability and approximated positivity. Moreover, I will present numerical results to illustrate the efficiency of each of the schemes and to compare them with other classical schemes.

This contribution is based on a joint work with Francisco Guillén-González (Universidad de Sevilla, Spain).

The Department of Applied and Computational
Mathematics and Statistics

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