

Modeling and simulation in drug delivery enhanced by stimuli

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The administration of anticancer therapeutic agents using conventional administration routes often leads to systemic side effects due to the nonlocal and uncontrolled drug release. To reduce the chemotherapy systemic side effects, stimuli responsive drug delivery systems that release the payload in the target site have been proposed ([3], [4]).

This talk will be focused in the mathematical modeling and the numerical simulation of drug delivery enhanced by ultrasounds, heat or electric fields ([1], [2]). These models include a convection-diffusion-reaction equation for the drug concentration coupled with an equation for the stimulus agent. Numerical methods will be discussed and numerical experiments illustrating the behavior of the models will be presented.

References

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