



**2nd International Meeting on
Differential Equations and Applications**
March 9-11, 2026 • Madrid (Spain)

**Boundedness of solutions of degenerate
nonautonomous logistic equations**

José M. Arrieta

Universidad Complutense de Madrid

We consider a reaction-diffusion equation in a bounded domain with logistic reaction term of the type $\lambda u - n(t, x)u^p$ and nonnegative initial data where the function $n(t, x)$ is nonnegative but vanishes in a time dependent subset $K(t)$. We are interested in understanding how the behavior of the set $K(t)$ affects the boundedness of the solutions. It turns out that not only the size and geometry of the moving set $K(t)$ is important, but also its velocity affects the boundedness of the solutions.

References

- [1] JM Arrieta, M. Molina, LA Santos, Boundedness of solutions of nonautonomous degenerate logistic equations, *Journal of Dynamics and Differential Equations*, **37** (2025).
- [2] JM Arrieta, RM Pardo, A. Rodríguez-Bernal, Asymptotic behavior of degenerate logistic equations, *Journal of Differential Equations*, **259** (2015).