

# Stationary solutions to reaction–diffusion–ODE systems

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I shall review results on stationary solutions to general reaction–diffusion–ODE systems from Mathematical Biology, where system of ordinary differential equations is coupled with one partial differential equation. Such systems may have different types of stationary solutions, including:

- Sufficiently smooth, regular stationary solutions,
- Jump-discontinuous stationary solutions,
- Singular stationary solutions.

In this talk, I will present the construction of regular and discontinuous stationary solutions and provide sufficient conditions to determine their stability. Furthermore, we will illustrate obtained results in the case of canonical models from Mathematical Biology.

This talk is based on the joint work with Grzegorz Karch (Wrocław), Anna Marciniak-Czochra (Heidelberg) and Kanako Suzuki (Mito).