Models of morphogen transport

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Transport of morphogens is a process occuring in the tissue, affecting cell differentation. In [1] authors proposed several mathematical models (systems of PDEs of reaction-diffusion type) of this process. I will present results from [2], on existence and asymptotics of solutions of mentioned above models (for one dimensional domain) and my own results on existence of solutions for three dimensional domain.

[1] Lander, A. D., Nie, Q., Wan, Y. M. *Do Morphogen Gradients Arise by Diffusion?* Dev. Cell, Vol. 2, pp. 785-796.

[2] Krzyzanowski, P., Laurencot, P., Wrzosek, D. *Well-posedness and convergence to the steady state for a model of morphogen transport*, SIAM J.MATH. ANAL. Vol. 40, No. 5, pp. 1725-1749.