



Correction to: Mathematical models of neuronal growth

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Correction to: Biomechanics and Modeling in Mechanobiology (2022) 21:89–118
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We report some minor errors in the article titled “Mathematical models of neuronal growth” by Hadrien Oliveri and Alain Goriely, published in *Biomechanics and Modeling in Mechanobiology* on 7 July 2022 (Oliveri and Goriely 2022):

1. Equation (4) should be replaced by:

$$\frac{dc_1}{dt} = \frac{J}{V} + k^- - k^+ c_1.$$

This adjustment ensures that k^- has the dimension of a concentration per unit time, while k^+ has the dimension of an inverse time. This is consistent with Equation (2), where we introduced the parameter e with dimension of time per concentration.

2. On page 92, a proper nondimensionalisation can be achieved by introducing the respective time, length, and concentration units A/D , SAe/VD , and SA/VD (correcting the initially chosen length unit). This revised nondimensionalisation introduces the dimensionless parameters

$\alpha = AD/Se$, $\beta = Vk^-/S$, and $\gamma = Ak^+/D$. It is important to note that this correction does not affect the nondimensionalised equations or the results depicted in the figures for given values of α , β , and γ .

3. The following statement “It is well known that there is no physical (positive) solution to the diffusion equation in one or two dimensions” should be corrected to read “There is no physical (positive) steady solution to the diffusion equation with a constant point source in one and two dimensions”.

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Reference

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