Errata for "Stochastic Modelling for Systems Biology"

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This is the errata for the book *Stochastic Modelling for Systems Biology*, published by Chapman & Hall/CRC, April 2006. I will update this as I (or others) spot errors, so please check regularly. I will update the date (above) with each new issue. If you have found an error not listed below, then please email me at `d.j.wilkinson@ncl.ac.uk` with page number and details. The book was very carefully proof-read, but it is inevitable with a book of this nature that a small number of errors will slip through...

You can get the latest version of this errata from:

`http://www.staff.ncl.ac.uk/d.j.wilkinson/smfsb/errata.pdf`

- p.46,l.15 (just above the first displayed equation) "intersection in empty" should be "intersection is empty". *Thanks to Richard van der Wath for pointing this out.*

- p.53,l.–1. "stronger that" should be "stronger than". *Thanks to Richard van der Wath.*

- Not strictly an error, but a point of clarification worth making. On p.62, Lemma 3.3 and Lemma 3.5, there is a statement following each result stating that it is *vital* that X and Y are independent. Of course what I mean here is that if X and Y are not independent, then one cannot assume that the results are true. I am not suggesting that the converse is true. Random variables X and Y satisfying $E(XY) = E(X)E(Y)$ (and hence $\text{Var}(X + Y) = \text{Var}(X) + \text{Var}(Y)$) are said to be *uncorrelated*. The Lemmas confirm that independent random quantities are uncorrelated. However, there are examples of uncorrelated random variables that are not independent, so the converse of these Lemmas is clearly not true. *Thanks to John Haigh.*

- p.115,l.–8. "non-determinism is captured" should be "non-determinism captured". *Thanks to Richard van der Wath.*

- p.127,l.–7. The right hand side of the transition equation should be $1 - (\lambda + x\mu)dt$ and not $1 - (\lambda - x\mu)dt$. *Thanks to Daniel Henderson.*

- p.140,l.13 (displayed equation). The last entry of the 2×3 stoichiometry matrix should be -1 and not 1. *Thanks to Marco Grzegorczyk.*

- p.147,l.21. "actually" should be "actual". *Thanks to Richard van der Wath.*

- p.169,l.–9. The text should read $k_1 = 1 \times 10^6$, and *not* $k_1 = 1 \times 10^{-6}$. Note that the shorthand given in Figure 7.7 has the correct value, and the correct value was used in the conversion to the discrete stochastic form. *Thanks to Des Higham.*

- p.175,l.21. The distribution should be $U(0.005, 0.03)$, not $U(0.005, 0.3)$. *Thanks to Yoon-Dong Yu.*

- p.182,l.8. The first event method requires $r - 1$ (not r) random numbers per event (where r is the number of states). *Thanks to Christian Netzer.*

- p.185,l.22. "$i = 1, 2, \ldots, u$" should be "$i = 1, 2, \ldots, v$". *Thanks to Richard van der Wath.*

- p.186,l.–3. The text "the u-dimensional reaction" should be "the v-dimensional reaction". *Thanks to Marco Grzegorczyk.*

- p.220–221. Starting with the last equation on p.220 and continuing to equation (10.2) on p.221, every occurrence of c_i should in fact be c_{ν_i}. *Thanks to Andrew Golightly.*

- p.220,l.–2. The function h_0 depends on the whole of c, not just c_{ν_i} (and certainly not c_i — see above), so the denominator of the fraction should be $h_0(x(t_{i-1}), c)$ and not $h_0(x(t_{i-1}), c_i)$. *Thanks to Anita Thieler.*

- p.223,l.2. "$L(c_j; \boldsymbol{x})$" should be "$L_j(c_j; \boldsymbol{x})$". *Thanks to Richard van der Wath.*