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Universiteit Leiden



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Title: A multidimensional study of streptomyces morphogenesis and development

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Stellingen

Propositions accompanying the thesis

A Multidimensional Study of *Streptomyces* Morphogenesis and Development

1. Combining different modeling approaches on multiple scales is the only way to come closer to a better understanding of *Streptomyces* behaviour in the fermentor.
This Thesis, Chapter 5 and Karr, J.R., Sangvhi, J.C., *et al. Cell* 2012.
2. Modeling always involves a trade-off between simplification and accurate representation.
This Thesis, Chapters 5 and 6.
3. The act of observing changes that what is being observed; care must therefore be taken when preparing and imaging fluorescent fusions.
This Thesis, Chapter 3 and Swulius, M.T. and Jensen, G.J., *J Bact* 2012.
4. Coupling the (ultra)structural information obtained by cryo-electron tomography with the dynamics of live imaging will lead to giant leaps in our understanding of the molecular make-up and functioning of cells.
This Thesis, Chapters 2 and 4.
5. The importance of bacterial mesosomes has been greatly underestimated.
This Thesis, Chapter 5 and Ebersold, H.R., Cordier, J.L., *et al. Arch Microbiol* 1981.
6. If the purpose of science is to better understand the world, then all research data and results should be made Open-Access.
Based on 'Open Access' by Peter Suber (available via MIT Press), and Creative Commons.
7. A good exercise in open-mindedness is to argue that the opposite of what you believe is true.

8. Despite man's ability to "think about thinking", he will never fully understand the complexity of his brain and how his consciousness can arise from it.

Based on Douglas Hofstadter's, 'Gödel, Escher, Bach.'

9. The more important a matter is, the more controversy it sparks.

10. It is always good to develop (and keep) a sense of humour in life; the highest forms of understanding we can achieve are laughter and human compassion.

Based on Richard P. Feynman's, 'What do you care what other people think?'

Katherine Anna Celler
Leiden, November 27th, 2013