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Controlling growth and morphogenesis of the industrial enzyme producer *Streptomyces lividans*

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Citation

Mangiameli, G. (2014, June 12). *Controlling growth and morphogenesis of the industrial enzyme producer Streptomyces lividans*. Retrieved from <https://hdl.handle.net/1887/25980>

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Issue Date: 2014-06-12

Propositions

1. Despite the advances that have been made in the past, *Streptomyces* are still relatively unattractive production hosts.

This Thesis, Chapter 2.

2. Extending a rational genetic approach for a wider use is strongly dependent on the current knowledge about genetic control and regulatory pathways.

This Thesis, Chapter 2.

3. The drastic changes observed in absence of CslA and GlxA proteins highlight the important and intriguing role of matrix components in the control of liquid morphology, growth and development.

This Thesis, Chapter 3.

4. Phage tail proteins may play a role in biofilm formation, bacterium-animal interaction and in the extracellular matrix of *Streptomyces*.

This Thesis Chapter 4; Shikuma et al. (2014) Marine tubeworm metamorphosis induced by arrays of bacterial phage tail-like structures. Science 343:528-533; Huang et al. (2011) Recruitment in the sea: bacterial genes required for inducing larval settlement in a polychaete worm. Scientific reports 2:110.

5. An efficient expression vector is an indispensable element in achieving optimal protein production.

This Thesis, Chapter 5.

6. The ability of re-focusing our mind onto goals when everything around seems confused is the very root of character and will.

Based on William Jones (1890) Principles of psychology.

7. If the statement by Jim Rohn that we are the average of the five people we spend the most time with was true, we should pay greater attention to our social choices.

8. Simply thinking of science increases moral behavior.

Based on Ma-Kellams and Blascovich (2013) Does Science Make You Moral? The Effects of Priming Science on Moral Judgments and Behavior. PLoS One 8:e57989.

9. The role of science is to define what can be done practically, but not to determine which development is the right one to pursue.
10. If as scientists our mission is disseminating knowledge, all the information should be readily available to society.

Based on The Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities (2003) The Max Planck society.