Structural characterization of the cell envelope in Actinobacteria under changing environments

Ultee, E.

Propositions accompanying the thesis entitled

"Structural characterization of the cell envelope in Actinobacteria

under changing environments"

Eveline Ultee

1. Morphological plasticity enables pathogens to evade the host immune system and is advantageous for survival.
   (This thesis, chapter 2)

2. The role of cell wall deficiency in antibiotic resistance and latent infections should not be underestimated.
   (Kawai *et al.* Cell 2018)

3. We are only at the beginning of understanding the complexity of the cell wall, which in *Streptomyces* is a multi-layered structure composed of peptidoglycan and extracellular polymers packed together by wall teichoic acids.
   (This thesis, chapter 4)

4. Cytoskeletal protein FilP plays an important role in the formation of wall-deficient cells in *Kitasatospora viridifaciens.*
   (This thesis, chapter 5)

5. The ability of root-associated bacteria to transition into a cell-wall deficient state upon oxygen limitation suggests a morphological switch when invading plant tissue.
   (This thesis, chapter 5)

6. In times of genome sequencing and DNA manipulation, microscopy should not be underestimated or left aside.

7. The future of microscopy lays in combining techniques that visualize biological samples of a broad range of scales

8. Teaching programming and coding would be a valuable addition to life science education.

9. One picture alone says more than a thousand words, but one picture says more than a million when it forms part of a time-lapse series or tomogram.