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Roadblocks & bypasses : protection of genome stability by translesion DNA synthesis in *C. elegans*

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Stellingen

behorend bij het proefschrift getiteld:

Roadblocks & Bypasses

Protection of genome stability by translesion
DNA synthesis in *C. elegans*

1. A single UV-lesion can constitute an insurmountable block for DNA replication and thereby can halt proliferation. *This thesis, chapter 2.*
2. The action of REV1 during unperturbed growth is predominantly anti-mutagenic: it prevents the accumulation of deletions, at the cost of less detrimental single nucleotide variants. *This thesis, chapter 3.*
3. Translesion synthesis is not essential for animal life. *This thesis, chapter 4.*
4. The *C. elegans* germline is a useful new biological system to study repair of DNA interstrand crosslinks. *This thesis, chapter 5.*
5. “Hassle-free” DNA duplication exists only in an ideal world, while in real life, it is constantly threatened by a myriad of diverse challenges. (Vaisman & Woodgate, *Crit Rev Biochem Mol Biol*, 2017)
6. The isolation and subsequent expression of GFP in different species was an iconic victory for fundamental biological research and shows that research with simple model organisms can have profound impacts on applied research and medicine.
7. While genome instability threatens the health of an individual organism, mutagenesis is also beneficial for the survival of species and essential for evolution.

8. Development of the CRISPR-Cas systems for genome editing has transformed the way life science research is conducted and holds enormous potential for the treatment of disease as well as for many aspects of biotechnology. (Zhang, *Q Rev Biophys*, 2019)
9. You should be your own harshest critic when analyzing and interpreting your scientific data.
10. To place our work as scientists in perspective: information is not knowledge, knowledge is not wisdom, wisdom is not truth, truth is not beauty, beauty is not love, love is not music, music is the best. (From the song *Packard goose* by Frank Zappa)
11. Contrary to popular wisdom, seeing isn't believing. When we observe something, belief ends, because it is not needed anymore. (Adapted from a line in *Pyramids* by Terry Pratchett).

Ivo van Bostelen, Leiden, 2019