

Stellingen behorende bij het proefschrift

Nanoscopic Analysis of DNA Double Strand Break Repair Foci

1. The internal distribution of DSB Repair proteins in foci is not random (*this thesis*).
2. The observation that RAD51 and DMC1 in DSB foci reside in distinct or overlapping clusters, of which shape, size and relative position change during meiosis, gives information about their mechanism of action (*this thesis*).
3. The possibility to quantify single molecule localization data based on coordinates of individual molecules rather than the super resolution image should not be overlooked (*this thesis* and Nicovich, Nature Protocols, 2017).
4. The presence of multiple clusters of BRCA2 within DSB foci supports the biochemical observation that RAD51 is loaded by BRCA2 at different nucleation sites along the resected ssDNA (*this thesis*).
5. Studying proteins in cells at the single molecule level is most informative when all proteins are labeled and present at physiologically relevant concentration (*this thesis*).
6. In super resolution microscopy there is currently more need for better fluorescent probes than better microscopes.
7. Increase in temporal resolution also increases the spatial resolution when imaging dynamic processes in living cells (Nixon-Abell, J., Science 2016).
8. Quantum mechanical effects which have shown to be important during for instance photosynthesis, should be considered to play a role in DNA metabolism (Ball, P., Nature 2011).
9. The fact that a technique works does not necessarily mean it can be used.
10. The genetic code is a list of all available ingredients rather than a recipe (De Correspondent, 2016).
11. If at first you don't succeed, that's one data point (Randall Munroe).