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Wiles and wanderings: immune-evasive maneuvers of skin-penetrating parasites

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Stellingen behorende bij het proefschrift

“Wiles and Wanderings: immune-evasive maneuvers of skin-penetrating parasites”

1. Parasites and tumor cells both exploit existing immunotolerance pathways in order to stay alive in a hostile host. (this thesis)
2. When available, human models should be used alongside animal models. It makes no sense to focus solely on a mouse strain of malaria in a mouse model to determine the effects of *falciparum* in humans. (this thesis)
3. Parasite motility has an underestimated influence on whole parasite vaccines. (this thesis)
4. The use of novel imaging techniques in the field of vaccinology is valuable as it can visualize uncharacterized parasite-host interactions. (this thesis)
5. Sterile immunity to malaria can be primed in the skin draining lymph node (*Obeid et al, EMBO Molecular Medicine 2013*). Therefore, understanding dermal pathogen-host interplay is crucial in order to circumvent the immunomodulatory role of the skin in establishing immunity to malaria.
6. Fractional dosing for malaria vaccines using the intradermal route of vaccination might be facilitated by dermal injection methods that mimic mosquito bite injection, such as microneedles or microneedle patches. (*Schnyder et al, travel medicine and infectious disease, 2020*)
7. Multimodal imaging using hybrid (both nuclear and fluorescent) tracers allows for detection of targets deep within tissue as well as high-resolution, real-time imaging. It can therefore be used as a diagnostic tool for infectious diseases (*Welling et al, Clinical and Translational Imaging 2019*). In the field of parasitology, it can also play a role in fundamental research in a human model for malaria.
8. Malaria has co-evolved with vertebrates over 100 million years. It would be foolish to underestimate the intricacy of such long standing parasite-host interactions (*George Poinar, American Entomologist 2016*).
9. Imaging, both microscopical and graphical, is cumin to a paper. Not strictly necessary but enhances its flavor drastically.
10. Climb high, sleep low. (*a worldwide mountaineering maxim for acclimatization*)
11. Due to misleading media-representation of the drowning individual we are inept at recognizing real-life drowning situations.