

Biochemical Adaptations in Host-Parasite Interactions

1. Lactate dehydrogenase of *S. mansoni* is an indispensable metabolic enzyme with distinct properties and therefore an ideal drug target. (*This thesis*)
2. Parasitic flatworms cannot and do not perform oxidation of fatty acids, as they lack the relevant enzymes. (*This thesis*)
3. The exceptional binding of a mono-acyl phospholipid ligand to the Toll-like receptor 2/6 complex is, so far, only identified in schistosomal host-parasite interactions. (*This thesis*)
4. *In vitro* studies on the composition of extra-cellular vesicles produced by *S. mansoni* lack host-parasite interactions and are therefore not necessarily representative of the *in vivo* situation. (*This thesis*).
5. Genome analysis alone cannot predict metabolic end products, but it can help indicate which processes might be present and should be investigated. (*This thesis*)
6. Studies on rholoquinone-dependent metabolism may lead to the discovery and development of a new class of anti-parasitic drugs.
Del Borrello, S., et al., *Rholoquinone biosynthesis in C. elegans requires precursors generated by the kynurenine pathway*. *Elife*, 2019. 8: p. e48165. Buceta, P.M.R., et al. *The kynurenine pathway is essential for rholoquinone biosynthesis in Caenorhabditis elegans*. *Journal of Biological Chemistry* 2019. 294: p. 11047–11053.
7. Big data alone cannot answer Big questions, for this, Big analysis is a necessity.
Bainbridge, M., *Big Data Challenges for Clinical and Precision Medicine*, in *Big Data, Big Challenges: A Healthcare Perspective*. 2019, Springer. p. 17-31.
8. One should not conclude anything about scientific or practical importance based on statistical significance (or lack thereof).
Wasserstein, R.L. et al., *Moving to a World Beyond "p < 0.05"*. *The American Statistician*, 2019. 73(sup1): p.1-19.
9. A (hypothetical) photosynthetic cow would require a surface area of about 1600 square meters to fulfill its daily metabolic energy need, which explains why photo-synthetic animals do not exist.
Rauch, C., et al., *On Being the Right Size as an Animal with Plastids*. *Frontiers in Plant Science*, 2017. 8(1402).
10. When in search of a black swan, one should look near the geese as well.
Warzecha, J., et al., *A molecular characteristic of the Anatidae mitochondrial control region—a review*. *Annals of Animal Science*, 2018. 18(1): p. 3-15
11. Sometimes, the best answer is a more interesting question.
Terry Pratchett