

PROPOSITIONS TO THIS THESIS

The gastrointestinal microbiota in human health and disease

1. Conventional polymerase chain reaction followed by gel electrophoresis remains an important technique for microbial analysis in the era of high throughput sequencing (*this thesis*).
2. Microbiome sampling from low biomass samples may be hampered by microbial contamination, requiring critical evaluation of laboratory procedures and the inclusion of controls (*this thesis*).
3. Bacterial markers can be stably measured in fecal immunochemical tests (FITs) by quantitative polymerase chain reaction (qPCR) analysis, which is promising for future applications in clinical practice (*this thesis*).
4. Fecal bacterial alterations are found in hidradenitis suppurativa, suggesting the presence of a gut-skin axis in this chronic inflammatory disease (*this thesis*).
5. The interpretation of *Helicobacter pylori* serology is complex, with antibody titres subject to alterations over time and to therapy effects, which could be relevant for genetic associations studies (*this thesis*).
6. Failure is success in progress (*Albert Einstein*), which is highly encouraging for scientific research where experimental failure commonly forms the basis of new insights.
7. Scientists have been able to retrieve genetic information from deoxyribonucleic acids of >1 million years old (*Tom van der Valk et al, Nature 2021*), suggesting that research is possible as long as samples are sufficiently preserved.
8. Negative results are much more trustworthy than the positive, but researchers and the journals in which they publish are not very interested in these results (*The Economist, 2013*). Allowing these data to end up in a drawer is not a cost-effective way to conduct science.
9. Artificial intelligence is transforming medical research by revealing data patterns that can be used to predict disease and treatment outcomes for individual patients (*Eiryō Kawakami, Nature, 2021*), but while machines can guide medical doctors and researchers, they cannot replace them.
10. Achieving net zero transmission is the most important global health intervention now and for decades to come (*Margaret F.C. Chan Fung, The Lancet Planetary Health, 2021*).
11. 只要有恆心，鐵柱磨成針 – If you work at it hard enough, you can grind an iron bar into a needle.