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## **Guardians of the gut: harnessing bioinformatics to study the gut microbiome and faecal microbiota transplantation in intestinal disorders**

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## Stellingen

behorend bij het proefschrift getiteld



**Guardians of the gut:** Harnessing bioinformatics to study the gut microbiome and faecal microbiota transplantation in intestinal disorders.

1. Faecal Microbiota Transplantation (FMT) is not a cure; it is a prophylaxis. (This thesis.)
2. FMT has positive side-effects, in particular preventing antibiotic resistant infections and colorectal cancer. Don't limit yourself to the negative connotation of 'side-effects'. (This thesis.)
3. Outside of recurrent *Clostridioides difficile* infections, FMT is a research tool and not a therapeutic. (This thesis.)
4. Correlations of *Ruminococcus gnavus* with clinical symptoms are flawed by the wide heterogeneity of this species and therefore of limited value. (This thesis.)
5. Bacteria are the miracle technology that can help humans overcome global crises. They can degrade our garbage, defend (crop) plants against global warming and pathogens, and increase nitrogen fixation. (Yoshida *et al.*, 2016. *Science*; Ji *et al.*, 2025. *Cell Host & Microbe*; Ákos Kovács, lecture 'Bacterial frenemies', 24 November 2023; Lu *et al.*, 2025. *Cell Host & Microbe*.)
6. Bacteria are paranoid: they seize every opportunity they get to snatch up weapons! (Bachman *et al.*, 2024. *Science*. Changeau *et al.*, 2022. *Trends in Microbiology*. Roux *et al.*, 2025. *bioRxiv*.)
7. Fight fire with fire: if bacteria cause disease, use other bacteria to solve it. (Adapted from Michael Zimmermann, European Molecular Biology Laboratory Heidelberg Symposium 2023.)
8. Most symbionts evolved from pathogens. (Kaltenpoth *et al.*, 2025. *Nature Reviews Microbiology*. Johnson, 2019. *Nature Reviews Microbiology*. Brenes & Laub, 2025. *Cell Host & Microbe*.)
9. Science needs to adopt an attitude of going slow: Take your time as you work. It will save time later. (After a Patagonian proverb: "he who hurries loses time.")
10. Liberty is too often misinterpreted. To be free means not being a nuisance for others. ("自由とは、他人に迷惑をかけない範囲で自由を得ることができるものだといっています。" – Fukuzawa Yukichi (福澤諭吉; 1835-1901))
11. Be critical and openminded when approaching everyday situations and choices. Never follow the crowd. ("Numquam turbae misceri" – Cartesius Lyceum Amsterdam 2015-2016)
12. Think before you use AI, or be prepared never to think again. (Kosmyrna *et al.*, 2025. *arXiv*)