

Recommended Reading List

The articles listed below include various landmark articles and/or interesting recent literature on the topics of microbiomes in foods, health, and agriculture. These are good places to start if you want to learn more about microbiomes in different ecosystems. Moreover, some of these articles could also be good inspiration for your group projects.

Week 1: thematic review articles on microbiomes in foods and human health

1. Zmora, N., Suez, J. & Elinav, E. You are what you eat: diet, health and the gut microbiota. *Nat Rev Gastroenterol Hepatol* 16, 35–56 (2019). <https://doi.org/10.1038/s41575-018-0061-2>
2. Martin J. Blaser, Zoe G. Cardon, Mildred K. Cho, Jeffrey L. Dangl, Timothy J. Donohue, Jessica L. Green, Rob Knight, Mary E. Maxon, Trent R. Northen, Katherine S. Pollard, Eoin L. Brodie. Toward a Predictive Understanding of Earth's Microbiomes to Address 21st Century Challenges. *mBio* May 2016, 7 (3) e00714-16. <https://doi.org/10.1128/mBio.00714-16>
3. Trivedi, P., Leach, J.E., Tringe, S.G. et al. Plant–microbiome interactions: from community assembly to plant health. *Nat Rev Microbiol* 18, 607–621 (2020). <https://doi.org/10.1038/s41579-020-0412-1>

Human gut microbiome and diet

1. Sonnenburg, E., Smits, S., Tikhonov, M. et al. Diet-induced extinctions in the gut microbiota compound over generations. *Nature* 529, 212–215 (2016). <https://doi.org/10.1038/nature16504>
2. Thaïss, C., Itav, S., Rothschild, D. et al. Persistent microbiome alterations modulate the rate of post-dieting weight regain. *Nature* 540, 544–551 (2016). <https://doi.org/10.1038/nature20796>
3. Lagier, J.C., Dubourg, G., Million, M. et al. Culturing the human microbiota and culturomics. *Nat Rev Microbiol* 16, 540–550 (2018). <https://doi.org/10.1038/s41579-018-0041-0>
4. A. M. O'Hara and F. Shanahan, The gut flora as a forgotten organ, *EMBO Rep.*, 2006, 7(7), 688–693
5. Nature Article Collection: Milestones in human microbiome research. <https://www.nature.com/collections/bhciehjhej>
6. Nature Article Collection: Gut Microbiota. <https://www.nature.com/collections/gjdhfgjiid>
7. Nature Article Collection: Diet, microbiome, and immune homeostasis. <https://www.nature.com/collections/jfiiijfidi>
8. Sender R, Fuchs S, Milo R. 2016. Revised Estimates for the number of human and bacteria cells in the body, *PLoS Biol.* 14(8), e1002533.

Other host-microbiome

1. Brucker RM, Bordenstein SR. 2013. The capacious hologenome. *Zoology* 116(5), 260–261.
2. Zilber-Rosenberg I, Rosenberg E. 2008. Role of microorganisms in the evolution of animals and plants: the hologenome theory of evolution, *FEMS Microbiol. Rev.*, 2008, 32(5), 723–735.
3. Nature Article Collection: The Plant Microbiome. <https://www.nature.com/collections/jcbagaigaa>

Food microbiome

1. Wolfe et al. 2014. Cheese Rind Communities Provide Tractable Systems for In Situ and In Vitro Studies of Microbial Diversity. *Cell* 158 (2): 422-433. <https://doi.org/10.1016/j.cell.2014.05.041>.
2. Landis et al. 2021. The diversity and function of sourdough starter microbiomes. *eLife* 10:e61644. <https://doi.org/10.7554/eLife.61644>

3. Blasche *et al.* 2021. Metabolic cooperation and spatiotemporal niche partitioning in a kefir microbial community. *Nat Microbiol* **6**, 196–208. <https://doi.org/10.1038/s41564-020-00816-5>
4. Bokulich *et al.* 2016. A new perspective on microbial landscapes within food production. *Current Opinion in Biotechnology* **37**:182-189. <https://doi.org/10.1016/j.copbio.2015.12.008>

Designing a Microbiome Study

1. Johnson AJ, Zheng JJ, Kang JW, Saboe A, Knights D and Zivkovic AM. 2020. A Guide to Diet-Microbiome Study Design. *Front. Nutr.* **7**:79. doi: 10.3389/fnut.2020.00079
2. Goodrich *et al.* 2014 Conducting a Microbiome Study <https://doi.org/10.1016/j.cell.2014.06.037>
3. Knight R, Vrbancic A, Taylor BC *et al.* 2018. Best practices for analysing microbiomes. *Nat Rev Microbiol* **16**, 410–422. <https://doi.org/10.1038/s41579-018-0029-9>
4. Mallick H, Ma S, Franzosa EA. *et al.* 2017. Experimental design and quantitative analysis of microbial community multiomics. *Genome Biol* **18**, 228. <https://doi.org/10.1186/s13059-017-1359-z>

Taxonomy / Phylogeny

1. Washburne, A.D., Morton, J.T., Sanders, J. *et al.* Methods for phylogenetic analysis of microbiome data. *Nat Microbiol* **3**, 652–661 (2018). <https://doi.org/10.1038/s41564-018-0156-0>
2. Sanford RA, Lloyd GG, Konstantinidis KT, Löffler FE. 2021. Microbial Taxonomy Run Amok. *Trends in Microbiology* **29**(5): 394-404. <https://doi.org/10.1016/j.tim.2020.12.010>

Other

4. Stephens ZD *et al.* 2015. Big Data: Astronomical or Genomical? *Plos Biol.* **13**(7): e1002195. <https://doi.org/10.1371/journal.pbio.1002195>
5. Blischak JD, Davenport ER, Wilson G (2016) A Quick Introduction to Version Control with Git and GitHub. *PLoS Comput Biol* **12**(1): e1004668. <https://doi.org/10.1371/journal.pcbi.1004668>