References

- [1] Ventola, C. L. (2015). The antibiotic resistance crisis: part 1: causes and threats. *Pharmacy and therapeutics*, 40(4), 277.
- [2] Fisher, M. C., Hawkins, N. J., Sanglard, D., & Gurr, S. J. (2018). Worldwide emergence of resistance to antifungal drugs challenges human health and food security. *Science*, 360(6390), 739-742.
- [3] Hellweger, F. L. (2013). Escherichia coli adapts to tetracycline resistance plasmid (pBR322) by mutating endogenous potassium transport: in silico hypothesis testing. *FEMS microbiology ecology*, 83(3), 622-631.
- [4] Hacquard, S., Spaepen, S., Garrido-Oter, R., & Schulze-Lefert, P. (2017). Interplay between innate immunity and the plant microbiota. *Annual review of phytopathology*, *55*, 565-589.
- [5] Petrof, E. O., Gloor, G. B., Vanner, S. J., Weese, S. J., Carter, D., Daigneault, M. C., ... & Allen-Vercoe, E. (2013). Stool substitute transplant therapy for the eradication of Clostridium difficile infection: 'RePOOPulating' the gut. *Microbiome*, 1(1), 3.
- [6] DeLong, K., Bensouda, S., Zulfiqar, F., Zierden, H. C., Hoang, T. M., Abraham, A. G., ... & Fuchs, E. J. (2019). Conceptual Design of a Universal Donor Screening Approach for Vaginal Microbiota Transplant. Frontiers in cellular and infection microbiology, 9, 306.
- [7] Sergaki, C., Lagunas, B., Lidbury, I., Gifford, M. L., & Schäfer, P. (2018). Challenges and approaches in microbiome research: from fundamental to applied. *Frontiers in plant science*, 9.
- [8] Zahn, G., & Amend, A. S. (2017). Foliar microbiome transplants confer disease resistance in a critically-endangered plant. *PeerJ*, 5, e4020.
- [9] Shen, Z., Xue, C., Penton, C. R., Thomashow, L. S., Zhang, N., Wang, B., ... & Shen, Q. (2019). Suppression of banana Panama disease induced by soil microbiome reconstruction through an integrated agricultural strategy. *Soil Biology and Biochemistry*, 128, 164-174.
- [10] Zgadzaj, R., Thiergart, T., Bozsoki, Z., Oter, R. G., Radutoiu, S., & Schulze-Lefert, P. (2019). Lotus japonicus symbiosis signaling genes and their role in the establishment of root-associated bacterial and fungal communities. bioRxiv, 547687.
- [11] Madupu, R., Rogers, Y. H., Rusch, D., Miller, J., Krampis, K., & Nelson, K. E. (2006). Microbiomes. *Reviews in Cell Biology and Molecular Medicine*.
- [12] Paerl, H. W., & Pinckney, J. L. (1996). A mini-review of microbial consortia: their roles in aquatic production and biogeochemical cycling. *Microbial Ecology*, 31(3), 225-247.
- [13] Madsen, E. L. (2011). Microorganisms and their roles in fundamental biogeochemical cycles. *Current opinion in biotechnology*, 22(3), 456-464.
- [14] Sunagawa, S., Coelho, L. P., Chaffron, S., Kultima, J. R., Labadie, K., Salazar, G., ... & Cornejo-Castillo, F. M. (2015). Structure and function of the global ocean microbiome. *Science*, *348*(6237), 1261359.
- [15] Bulgarelli, D., Schlaeppi, K., Spaepen, S., Van Themaat, E. V. L., & Schulze-Lefert, P. (2013). Structure and functions of the bacterial microbiota of plants. *Annual review of plant biology*, 64, 807-838.
- [16] Turnbaugh, P. J., Ley, R. E., Hamady, M., Fraser-Liggett, C. M., Knight, R., & Gordon, J. I. (2007). The human microbiome project. *Nature*, 449(7164), 804.

- [17] Cho, I., & Blaser, M. J. (2012). The human microbiome: at the interface of health and disease. *Nature Reviews Genetics*, 13(4), 260.
- [18] Jangi, S., Gandhi, R., Cox, L. M., Li, N., Von Glehn, F., Yan, R., ... & Cook, S. (2016). Alterations of the human gut microbiome in multiple sclerosis. *Nature communications*, 7, 12015.
- [19] Zhou, D., Jing, T., Chen, Y., Wang, F., Qi, D., Feng, R., ... & Li, H. (2019). Deciphering microbial diversity associated with Fusarium wilt-diseased and disease-free banana rhizosphere soil. BMC microbiology, 19(1), 161.
- [20] Turner, T. R., James, E. K., & Poole, P. S. (2013). The plant microbiome. *Genome biology*, 14(6), 209.
- [21] Zgadzaj, R., Garrido-Oter, R., Jensen, D. B., Koprivova, A., Schulze-Lefert, P., & Radutoiu, S. (2016). Root nodule symbiosis in Lotus japonicus drives the establishment of distinctive rhizosphere, root, and nodule bacterial communities. *Proceedings of the National Academy of Sciences*, 113(49), E7996-E8005.
- [22] Seymour, J. R., Amin, S. A., Raina, J. B., & Stocker, R. (2017). Zooming in on the phycosphere: the ecological interface for phytoplankton–bacteria relationships. *Nature microbiology*, 2(7), 17065.
- [23] Badri, D. V., & Vivanco, J. M. (2009). Regulation and function of root exudates. Plant, cell & environment, 32(6), 666-681.
- [24] Durán, P., Thiergart, T., Garrido-Oter, R., Agler, M., Kemen, E., Schulze-Lefert, P., & Hacquard, S. (2018). Microbial interkingdom interactions in roots promote Arabidopsis survival. *Cell*, 175(4), 973-983.
- [25] Wooley, J. C., Godzik, A., & Friedberg, I. (2010). A primer on metagenomics. PLoS computational biology, 6(2), e1000667.
- [26] Thomas, T., Gilbert, J., & Meyer, F. (2012). Metagenomics-a guide from sampling to data analysis. *Microbial informatics and experimentation*, 2(1), 3.
- [27] Bai, Y., Müller, D. B., Srinivas, G., Garrido-Oter, R., Potthoff, E., Rott, M., ... & Hüttel, B. (2015). Functional overlap of the Arabidopsis leaf and root microbiota. *Nature*, 528(7582), 364.
- [28] Robbins, C., Thiergart, T., Hacquard, S., Garrido-Oter, R., Gans, W., Peiter, E., ... & Spaepen, S. (2018). Root-associated bacterial and fungal community profiles of Arabidopsis thaliana are robust across contrasting soil P levels. *Phytobiomes*, *2*(1), 24-34.
- [29] Sasso, S., Stibor, H., Mittag, M., & Grossman, A. R. (2018). The Natural History of Model Organisms: From molecular manipulation of domesticated Chlamydomonas reinhardtii to survival in nature. *Elife*, 7, e39233.
- [30] Matsuo, T., & Ishiura, M. (2011). Chlamydomonas reinhardtii as a new model system for studying the molecular basis of the circadian clock. *FEBS letters*, 585(10), 1495-1502.
- [31] Shene, C., Asenjo, J. A., & Chisti, Y. (2018). Metabolic modelling and simulation of the light and dark metabolism of Chlamydomonas reinhardtii. *The Plant Journal*, 96(5), 1076-1088.
- [32] Chlamydomonas Resource Center: https://www.chlamycollection.org/
- [33] Duran, et al. Manuscript in preparation (MPIPZ).
- [34] Bai, Y., Müller, D. B., Srinivas, G., Garrido-Oter, R., Potthoff, E., Rott, M., ... & Hüttel, B. (2015). Functional overlap of the Arabidopsis leaf and root microbiota. *Nature*, *528*(7582), 364.
- [35] Brandt, Mark. Introduction to Fluorescence. (2010). *Fluorescence Spectroscopy* [PDF file]. Retrieved from https://www.rose-hulman.edu/~brandt/Fluorescence/Fluorescence_Introduction.pdf
- [36] Chemistry LibreTexts. (2018). Spectrophotometry. [online] Available at: https://chem.libretexts.org/Core/Physical_and_Theoretical_Chemistry/Kinetics/Reaction_Rates/Experime ntal Determination of Kinetcs/Spectrophotometry [Accessed 27 Nov. 2019].

REFERENCES

[37] Chemistry LibreTexts. (2018). Spectroscopy Based on Absorption. [online] Available at: https://chem.libretexts.org/Courses/Los_Angeles_Trade_Technical_College/Analytical_Chemistry/2%3A _Analytical_Chemistry_2.0_(Harvey)/11%3A_Spectroscopic_Methods/11.02%3A_Spectroscopy_Based_ on Absorption[Accessed 27 Nov. 2019].

- [38] PerkinElmerInc. Introduction to Fluorescence. (2000). An Introduction to Fluorescence Spectroscopy [PDF file]. Retrieved From ttp://www.chem.uci.edu/~dmitryf/manuals/Fundamentals/Fluorescence% 20Spectroscopy.pdf
- [39] Großkopf, T., & Soyer, O. S. (2014). Synthetic microbial communities. *Current opinion in microbiology*, 18, 72-77.
- [40] Harris, E. H. (2009). *The chlamydomonas sourcebook* (Vol. 1, pp. 119-157). D. B. Stern, & G. B. Witman (Eds.). San Diego, CA: Elsevier.
- [41] Tecan, Inc. Tecan Infinite 200 Manual [PDF file].Retrieved From http://lbk.fe.uni-lj.si/ic/wp-content/uploads/2017/09/Tecan_Infinite200.pdf
- [42] Griffiths, M. J., Garcin, C., van Hille, R. P., & Harrison, S. T. (2011). Interference by pigment in the estimation of microalgal biomass concentration by optical density. *Journal of microbiological methods*, 85(2), 119-123.
- [43] Chen, S., Yu, Y. L., & Wang, J. H. (2018). Inner filter effect-based fluorescent sensing systems: a review. *Analytica chimica acta*, 999, 13-26.
- [44] Hastie, T., Tibshirani, R., & Friedman, J. (2009). *The elements of statistical learning: data mining, inference, and prediction*. Springer Science & Business Media.
- [45] Photon Instrument Systems Multi-Cultivator MC 1000-OD[PDF file].Retrieved From: http://photo-bio-reactors.com/documents/MC_Manual-verze_2019-11.pdf
- [46] Portillo, M. C., Leff, J. W., Lauber, C. L., & Fierer, N. (2013). Cell size distributions of soil bacterial and archaeal taxa. *Appl. Environ. Microbiol.*, 79(24), 7610-7617.
- [47] College Algebra Lumen Learning https://courses.lumenlearning.com/waymakercollegealgebra/chapter/characteristics-of-parabolas/
- [48] Gallaher, S. D., Fitz-Gibbon, S. T., Strenkert, D., Purvine, S. O., Pellegrini, M., & Merchant, S. S. (2018). High-throughput sequencing of the chloroplast and mitochondrion of Chlamydomonas reinhardtii to generate improved de novo assemblies, analyze expression patterns and transcript speciation, and evaluate diversity among laboratory strains and wild isolates. *The Plant Journal*, 93(3), 545-565.