

Gillian McHugo

COMPUTATIONAL BIOLOGIST

Dublin, Ireland

✉ gillianmchugo@pm.me | 🏠 [gillianmchugo.github.io](https://github.com/gillianmchugo) | ☎ 0000-0001-6920-0041 | 📧 [gillianmchugo](https://twitter.com/gillianmchugo) | 🌐 [gillianmchugo](https://www.linkedin.com/company/gillianmchugo)

Computational biology PhD researcher at University College Dublin studying integrative genomics of infectious diseases in cattle.

Education

PhD in Infection Biology

2018 - 2024

UNIVERSITY COLLEGE DUBLIN

Dublin, Ireland

- Thesis: Integrative population and functional genomics of African cattle, preprint on *bioRxiv* (doi: 10.1101/2024.06.20.599852).

MSc in Evolutionary Biology

2015 - 2016

UNIVERSITY COLLEGE DUBLIN

Dublin, Ireland

- Thesis: A population genomic analysis of the endangered Galway sheep breed, published in *Frontiers in Genetics* (doi: 10.3389/fgene.2019.00927).

BA (Mod) in Natural Sciences (Zoology)

2011 - 2015

TRINITY COLLEGE DUBLIN

Dublin, Ireland

- Thesis: *Mytilus edulis* as a bioindicator of water pollution: potential histopathology biomarkers in Dublin Bay and Newquay, Co. Clare.

Publications

Hall, T. J., **McHugo, G. P.**, Mullen, M. P., Ward, J. A., Killick, K. E., Browne, J. A., Gordon, S. V., & MacHugh, D. E. (2024). Integrative and comparative genomic analyses of mammalian macrophage responses to intracellular mycobacterial pathogens. *Tuberculosis*, *147*, 102453. doi:10.1016/j.tube.2023.102453.

Kelly, P. A., **McHugo, G. P.**, Scaife, C., Peters, S., Stevenson, M. L., McKay, J. S., MacHugh, D. E., Saez, I. L., & Breathnach, R. (2024). Unveiling the role of endoplasmic reticulum stress pathways in canine demodicosis. *Parasite Immunology*, *46*(4), e13033. doi:10.1111/pim.13033.

Ward, J. A., Ng'ang'a, S. I., Randhawa, I. A. S., **McHugo, G. P.**, O'Grady, J. F., Flórez, J. M., Browne, J. A., Pérez O'Brien, A. M., Landaeta-Hernández, A. J., Garcia, J. F., Sonstegard, T. S., Frantz, L. A. F., Salter-Townshend, M., & MacHugh, D. E. (2024). Genomic insights into the population history and adaptive traits of Latin American Criollo cattle. *Royal Society Open Science*, *11*(3), 231388. doi:10.1098/rsos.231388.

Bhat, S. A., Elnaggar, M., Hall, T. J., **McHugo, G. P.**, Reid, C., MacHugh, D. E., & Meade, K. G. (2023). Preferential differential gene expression within the WC1.1+ $\gamma\delta$ T cell compartment in cattle naturally infected with *Mycobacterium bovis*. *Frontiers in Immunology*, *14*, 1265038. doi:10.3389/fimmu.2023.1265038.

Correia, C. N., **McHugo, G. P.**, Browne, J. A., McLoughlin, K. E., Nalpas, N. C., Magee, D. A., Whelan, A. O., Villarreal-Ramos, B., Vordermeier, H. M., Gormley, E., Gordon, S. V., & MacHugh, D. E. (2022). High-resolution transcriptomics of bovine purified protein derivative-stimulated peripheral blood from cattle infected with *Mycobacterium bovis* across an experimental time course. *Tuberculosis*, *136*, 102235. doi:10.1016/j.tube.2022.102235.

Ward, J. A., **McHugo, G. P.**, Dover, M. J., Hall, T. J., Ng'ang'a, S. I., Sonstegard, T. S., Bradley, D. G., Frantz, L. A. F., Salter-Townshend, M., & MacHugh, D. E. (2022). Genome-wide local ancestry and evidence for mitonuclear coadaptation in African hybrid cattle populations. *iScience*, *25*(7), 104672. doi:10.1016/j.isci.2022.104672.

Hall, T. J., Mullen, M. P., **McHugo, G. P.**, Killick, K. E., Ring, S. C., Berry, D. P., Correia, C. N., Browne, J. A., Gordon, S. V., & MacHugh, D. E. (2021). Integrative genomics of the mammalian alveolar macrophage response to intracellular mycobacteria. *BMC Genomics*, *22*, 343. doi:10.1186/s12864-021-07643-w.

McHugo, G. P., Dover, M. J., & MacHugh, D. E. (2019). Unlocking the origins and biology of domestic animals using ancient DNA and paleogenomics. *BMC Biology*, *17*, 98. doi:10.1186/s12915-019-0724-7.

McHugo, G. P., Browett, S., Randhawa, I. A. S., Howard, D. J., Mullen, M. P., Richardson, I. W., Park, S. D. E., Magee, D. A., Scraggs, E., Dover, M. J., Correia, C. N., Hanrahan, J. P., & MacHugh, D. E. (2019). A population genomics analysis of the native Irish Galway sheep breed. *Frontiers in Genetics*, *10*, 927. doi:10.3389/fgene.2019.00927.

Browett, S., **McHugo, G.**, Richardson, I. W., Magee, D. A., Park, S. D. E., Fahey, A. G., Kearney, J. F., Correia, C. N., Randhawa, I. A. S., & MacHugh, D. E. (2018). Genomic characterisation of the indigenous Irish Kerry cattle breed. *Frontiers in Genetics*, *9*, 51. doi:10.3389/fgene.2018.00051.

A full list is available at [gillianmchugo.github.io](https://github.com/gillianmchugo) and orcid.org/0000-0001-6920-0041