

Selected Publications from 2023

The Centre for Genomics Research has contributed to project design, method development/optimisation, data generation or analysis for the following publications:

- Iannucci, S., Harvey, W.T., Hughes, J., Robertson, D.L., Poyade, M. and Hutchinson, E., 2023. [The SARS-CoV-2 Spike Protein Mutation Explorer: using an interactive application to improve the public understanding of SARS-CoV-2 variants of concern.](#) *Journal of Visual Communication in Medicine*, 46(3), pp.122-132.
- Pascall, D.J., Vink, E., Blacow, R., Bulteel, N., Campbell, A., Campbell, R., Clifford, S., Davis, C., da Silva Filipe, A., El Sakka, N. and Fjodorova, L., 2023. [Directions of change in intrinsic case severity across successive SARS-CoV-2 variant waves have been inconsistent.](#) *Journal of Infection*.
- Pascall, D.J., Vink, E., Blacow, R., Bulteel, N., Campbell, A., Campbell, R., Clifford, S., Davis, C., da Silva Filipe, A., El Sakka, N. and Fjodorova, L., 2023. [The SARS-CoV-2 Alpha variant was associated with increased clinical severity of COVID-19 in Scotland: A genomics-based retrospective cohort analysis.](#) *Plos one*, 18(4), p.e0284187.
- Cook, K.F., Beckett, A.H., Glaysher, S., Goudarzi, S., Fearn, C., Loveson, K.F., Elliott, S., Wyllie, S., Lloyd, A., Bicknell, K. and Lumley, S., 2023. [Multiple pathways of SARS-CoV-2 nosocomial transmission uncovered by integrated genomic and epidemiological analyses during the second wave of the COVID-19 pandemic in the UK.](#) *Frontiers in cellular and infection microbiology*, 12, p.1968.
- Burnside, G., Cheyne, C.P., Leeming, G., Humann, M., Darby, A., Green, M.A., Crozier, A., Maskell, S., O'Halloran, K., Musi, E. and Carmi, E., 2023. [COVID-19 risk mitigation in reopening mass cultural events: population-based observational study for the UK Events Research Programme in Liverpool City Region.](#) *Journal of the Royal Society of Medicine*, p.01410768231182389.
- Foxley-Marrable, M., D'Cruz, L., Meredith, P., Glaysher, S., Beckett, A.H., Goudarzi, S., Fearn, C., Cook, K.F., Loveson, K.F., Dent, H. and Paul, H., 2023. [Combining viral genomics and clinical data to assess risk factors for severe COVID-19 \(mortality, ICU admission, or intubation\) amongst hospital patients in a large acute UK NHS hospital Trust.](#) *Plos one*, 18(3), p.e0283447.

- Cox, M., Peacock, T.P., Harvey, W.T., Hughes, J., Wright, D.W., Willett, B.J., Thomson, E., Gupta, R.K., Peacock, S.J., Robertson, D.L. and Carabelli, A.M., 2023. **SARS-CoV-2 variant evasion of monoclonal antibodies based on in vitro studies.** *Nature Reviews Microbiology*, 21(2), pp.112-124.
- Colton, H., Parker, M.D., Stirrup, O., Blackstone, J., Loose, M., McClure, C.P., Roy, S., Williams, C., McLeod, J., Smith, D. and Taha, Y., 2023. **Factors affecting turnaround time of SARS-CoV-2 sequencing for inpatient infection prevention and control decision making: analysis of data from the COG-UK HOCl study.** *Journal of Hospital Infection*, 131, pp.34-42.
- Cotton, S., McHugh, M.P., Dewar, R., Haas, J.G., Templeton, K., Robson, S.C., Connor, T.R., Loman, N.J., Golubchik, T., Nunez, R.T.M. and Bonsall, D., 2023. **Investigation of hospital discharge cases and SARS-CoV-2 introduction into Lothian care homes.** *Journal of Hospital Infection*, 135, pp.28-36.
- Bailey, C., Sanderson, T., Townsley, H., Goldman, J., Black, J.R., Young, G., Goldstone, R., Fowler, A.S., Ward, S., Jackson, D.J. and Cubitt, L., 2023. **Independent SARS-CoV-2 staff testing protected academic and health-care institutions in northwest London.** *The Lancet*.
- Dunn, J.C., Thomas, R.C., Hipperson, H., Sheehan, D.J., Orsman, C., Mallord, J. and Goodman, S.J., 2023. **Evidence for strain-specific virulence of Trichomonas gallinae in African columbiformes.** *Parasitology*, 150(2), pp.206-211.
- Ransome, E., Hobbs, F., Jones, S., Coleman, C.M., Harris, N.D., Woodward, G., Bell, T., Trew, J., Kolarević, S., Kračun-Kolarević, M. and Savolainen, V., 2023. **Evaluating the transmission risk of SARS-CoV-2 from sewage pollution.** *Science of The Total Environment*, 858, p.159161.
- Barnes, K., Levy, J., Andersen, K., Gauld, J., Rigby, J., Kanjerwa, O., Uzzell, C., Chilupsya, C., Anscombe, C., Tomkins-Tinch, C. and Mbeti, O., 2023. **Utilizing river and wastewater as a SARS-CoV-2 surveillance tool to predict trends and identify variants of concern in settings with limited formal sewage systems.** *Research Square*.
- Laine, V.N., Sävilammi, T., Wahlberg, N., Meramo, K., Ossa, G., Johnson, J.S., Blomberg, A.S., Yeszhanov, A.B., Yung, V., Paterson, S. and Lilley, T.M., 2023. **Whole-genome analysis reveals contrasting relationships among nuclear and mitochondrial genomes between three sympatric bat species.** *Genome biology and evolution*, 15(1), p.evac175.
- Wanelik, K.M., Begon, M., Bradley, J.E., Friberg, I.M., Jackson, J.A., Taylor, C.H. and Paterson, S., 2023. **Effects of an IgE receptor polymorphism acting on immunity, susceptibility to infection, and reproduction in a wild rodent.** *Elife*, 12, p.e77666.

- Brunner, F., Payne, A., Cairns, E., Airey, G., Gregory, R., Pickwell, N., Holmes, N., Wilson, M., Carlile, M., Hill, V. and Child, H., 2023. **Wastewater genomic surveillance tracks the spread of the SARS-CoV-2 Omicron variant across England**. *medRxiv*, pp.2023-02.
- Taylor, C.H., Friberg, I.M., Jackson, J.A., Arriero, E., Begon, M., Wanelik, K.M., Paterson, S. and Bradley, J.E., 2023. **Living with chronic infection: Persistent immunomodulation during avirulent haemoparasitic infection in a wild rodent**. *Molecular ecology*, 32(5), pp.1197-1210.
- Fenn, J., Taylor, C., Goertz, S., Wanelik, K.M., Paterson, S., Begon, M., Jackson, J. and Bradley, J., 2023. **Discrete patterns of microbiome variability across timescales in a wild rodent population**. *BMC microbiology*, 23(1), p.87.
- Maestri, A., Pursey, E., Chong, C., Pons, B.J., Gandon, S., Custodio, R., Chisnall, M., Grasso, A., Paterson, S., Baker, K.S. and van Houte, S., 2023. **Bacterial defences interact synergistically by disrupting phage cooperation**. *bioRxiv*, pp.2023-03.
- Child, H.T., O'Neill, P.A., Moore, K., Rowe, W., Denise, H., Bass, D., Wade, M.J., Loose, M., Paterson, S., van Aerle, R. and Jeffries, A.R., 2023. **Optimised protocol for monitoring SARS-CoV-2 in wastewater using reverse complement PCR-based whole-genome sequencing**. *PLoS One*, 18(4), p.e0284211.
- Bassano, I., Ramachandran, V.K., Khalifa, M.S., Lilley, C.J., Brown, M.R., van Aerle, R., Denise, H., Rowe, W., George, A., Cairns, E. and Wierzbicki, C., 2023. **Evaluation of variant calling algorithms for wastewater-based epidemiology using mixed populations of SARS-CoV-2 variants in synthetic and wastewater samples**. *Microbial Genomics*, 9(4).
- Keshaviah, A., Diamond, M.B., Wade, M.J., Scarpino, S.V., Ahmed, W., Amman, F., Aruna, O., Badilla-Aguilar, A., Bar-Or, I., Bergthaler, A. and Bines, J.E., 2023. **Wastewater monitoring can anchor global disease surveillance systems**. *The Lancet Global Health*, 11(6), pp.e976-e981.
- Wanelik, K.M., Begon, M., Bradley, J.E., Friberg, I.M., Taylor, C.H., Jackson, J.A. and Paterson, S., 2023. **Early life immune expression profiles predict later life health and fitness in a wild rodent**. *Molecular ecology*.
- Kharaz, Y.A., Fang, Y., Welting, T., Peffers, M. and Comerford, E.J., 2020. **Small RNA signatures of the anterior cruciate ligament from patients with knee joint osteoarthritis**. *MedRxiv*, pp.2020-05.
- Nyangiri, O.A., Mulindwa, J., Namulondo, J., Kitibwa, A., Nassuuna, J., Elliott, A., Kimuda, M.P., Boobo, A., Nerima, B., Adriko, M. and Dunton, N.J., 2023. **Variants of IL6, IL10, FCN2, RNASE3, IL12B and IL17B loci are associated with Schistosoma mansoni worm burden in the Albert Nile region of Uganda**. *PLOS Neglected Tropical Diseases*, 17(11), p.e0011796.

- Nambala, P., Mulindwa, J., Noyes, H., Alibu, V.P., Nerima, B., Namulondo, J., Nyangiri, O., Matovu, E., MacLeod, A., Musaya, J. and TrypanoGEN+ Research Group as Members of the H3Africa Consortium, 2023. **Differences in gene expression profiles in early and late stage rhodesiense HAT individuals in Malawi.** *PLOS Neglected Tropical Diseases*, 17(12), p.e0011803.
- Namulondo, J., Nyangiri, O.A., Kimuda, M.P., Nambala, P., Nassuuna, J., Egesa, M., Nerima, B., Biryomumaisho, S., Mugasa, C.M., Nabukenya, I. and Kato, D., 2023. **Transcriptome analysis of peripheral blood of Schistosoma mansoni infected children from the Albert Nile region in Uganda reveals genes implicated in fibrosis pathology.** *bioRxiv*, pp.2023-06.
- Zamboulis, D.E., Marr, N., Lenzi, L., Birch, H.L., Screen, H.R., Clegg, P.D. and Thorpe, C.T., 2023. **The interfascicular matrix of energy storing tendons houses heterogenous cell populations disproportionately affected by ageing.** *bioRxiv*, pp.2023-01.
- Panca, M., Blackstone, J., Stirrup, O., Cutino-Moguel, M.T., Thomson, E., Peters, C., Snell, L.B., Nebbia, G., Holmes, A., Chawla, A. and Machin, N., 2023. **Evaluating the cost implications of integrating SARS-CoV-2 genome sequencing for infection prevention and control investigation of nosocomial transmission within hospitals.** *Journal of Hospital Infection*.
- Fisher, A.M., Airey, G., Liu, Y., Gemmell, M., Thomas, J., Bentley, E.G., Whitehead, M.A., Paxton, W.A., Pollakis, G., Paterson, S. and Viney, M., 2023. **The ecology of viruses in urban rodents with a focus on SARS-CoV-2.** *Emerging microbes & infections*, (just-accepted), p.2217940.
- Olsson-Brown, A., Yip, V., Ogiji, E.D., Jolly, C., Ressel, L., Sharma, A., Bergfeld, W., Liu, X., Khirwadkar, N., Bellon, T. and Dickinson, A., 2023. **TNF- α -Mediated keratinocyte expression and release of matrix metalloproteinase 9: Putative mechanism of pathogenesis in stevens-johnson syndrome/toxic epidermal necrolysis.** *Journal of Investigative Dermatology*, 143(6), pp.1023-1030.
- Quinn, L.M., Haldenby, S., Antzacak, P., Fowler, A., Bullock, K., Kenny, J., Gilbert, T., Andrews, T., Diaz-Nieto, R., Fenwick, S. and Jones, R., 2023. **Genomic profiling of idiopathic peri-hilar cholangiocarcinoma reveals new targets and mutational pathways.** *Scientific Reports*, 13(1), p.6681.
- Sollazzo, G., Gouvi, G., Nikolouli, K., Aumann, R.A., Djambazian, H., Whitehead, M.A., Berube, P., Chen, S.H., Tsiamis, G., Darby, A.C. and Ragoussis, J., 2023. **Genomic and cytogenetic analysis of the Ceratitis capitata temperature-sensitive lethal region.** *G3: Genes, Genomes, Genetics*, p.jkad074.

- Charras, A., Haldenby, S., Smith, E.M., Egbivwie, N., Olohan, L., Kenny, J.G., Schwarz, K., Roberts, C., Al-Abadi, E., Armon, K. and Bailey, K., 2023. **Panel sequencing links rare, likely damaging gene variants with distinct clinical phenotypes and outcomes in juvenile-onset SLE**. *Rheumatology*, 62(SI2), pp.SI210-SI225.
- Pérez-Hernández, T., Hernández, J.N., Machín, C., McNeilly, T.N., Nisbet, A.J., Matthews, J.B., Burgess, S.T. and González, J.F., 2023. **Exploring the transcriptomic changes underlying recombinant vaccine efficacy against *Teladorsagia circumcincta* in 3-month-old lambs**. *Veterinary Parasitology*, p.109960.
- Dimitriu, T., Souissi, W., Morwool, P., Darby, A., Crickmore, N. and Raymond, B., 2023. **Selecting for infectivity across metapopulations can increase virulence in the social microbe *Bacillus thuringiensis***. *Evolutionary Applications*, 16(3), pp.705-720.
- Mewamba, E.M., Noyes, H., Tiofack, A.A.Z., Kamga, R.M.N., Kamdem, C.N., Mengoue, L.E.T., Ofon, E., Ngassam, R.I.K., Nyangiri, O., Bucheton, B. and Njiokou, F., 2023. **Association between polymorphisms of IL4, IL13, IL10, STAT6 and IFNG genes, cytokines and immunoglobulin E levels with high burden of *Schistosoma mansoni* in children from schistosomiasis endemic areas of Cameroon**. *Infection, Genetics and Evolution*, 111, p.105416.
- Beesley, N.J., Cwiklinski, K., Allen, K., Hoyle, R.C., Spithill, T.W., La Course, E.J., Williams, D.J., Paterson, S. and Hodgkinson, J.E., 2023. **A major locus confers triclabendazole resistance in *Fasciola hepatica* and shows dominant inheritance**. *PLoS Pathogens*, 19(1), p.e1011081.