



Publications by Edinburgh Infectious Diseases members 2021

1. Adam KE, Bruce A, Corbishley A (2021) Veterinary Interventions to Improve Neonatal Survival on British Beef and Sheep Farms: A Qualitative Study. *Frontiers in veterinary science* 8: 619889
2. Adedeji AJ, Ijoma SI, Atai RB, Dogonyaro BB, Adole JA, Maurice NA, Osemeke OH, Waziri IA, Atuman YJ, Lyons NA *et al* (2021) Household and animal factors associated with sheepox and goatpox sero-prevalence and identification of high-risk areas in selected States of northern Nigeria. *Preventive veterinary medicine* 196: 105473
3. Adeloye D, Agarwal D, Barnes PJ, Bonay M, van Boven JF, Bryant J, Caramori G, Dockrell D, D'Urzo A, Ekström M *et al* (2021a) Research priorities to address the global burden of chronic obstructive pulmonary disease (COPD) in the next decade. *J Glob Health* 11: 15003
4. Adeloye D, Elneima O, Daines L, Poinasamy K, Quint JK, Walker S, Brightling CE, Siddiqui S, Hurst JR, Chalmers JD *et al* (2021b) The long-term sequelae of COVID-19: an international consensus on research priorities for patients with pre-existing and new-onset airways disease. *The Lancet Respiratory medicine* 9: 1467-1478
5. Affar S, Morrison DS, Campbell C (2021) Cervical cancer incidence by ethnic group in Scotland from 2008 to 2017: A population-based study. *European journal of cancer care* 30: e13441
6. Agache I, Akdis C, Akdis M, Brockow K, Chivato T, Del Giacco S, Eiwegger T, Eyerich K, Giménez-Arnau A, Gutermuth J *et al* (2021a) EAACI Biologicals Guidelines - Omalizumab for the treatment of chronic spontaneous urticaria in adults and in the paediatric population 12-17 years old. *Allergy* 77: 17-38
7. Agache I, Akdis CA, Akdis M, Brockow K, Chivato T, Del Giacco S, Eiwegger T, Eyerich K, Giménez-Arnau A, Gutermuth J *et al* (2021b) EAACI Biologicals Guidelines-dupilumab for children and adults with moderate-to-severe atopic dermatitis. *Allergy* 76: 988-1009
8. Agache I, Akdis CA, Akdis M, Canonica GW, Casale T, Chivato T, Corren J, Chu DK, Del Giacco S, Eiwegger T *et al* (2021c) EAACI Biologicals Guidelines-Recommendations for severe asthma. *Allergy* 76: 14-44
9. Agache I, Rocha C, Pereira A, Song Y, Alonso-Coello P, Solà I, Beltran J, Posso M, Akdis CA, Akdis M *et al* (2021d) Efficacy and safety of treatment with omalizumab for chronic spontaneous urticaria: A systematic review for the EAACI Biologicals Guidelines. *Allergy* 76: 59-70
10. Agache I, Song Y, Alonso-Coello P, Vogel Y, Rocha C, Solà I, Santero M, Akdis CA, Akdis M, Canonica GW *et al* (2021e) Efficacy and safety of treatment with biologicals for severe chronic rhinosinusitis with nasal polyps: A systematic review for the EAACI guidelines. *Allergy* 76: 2337-2353
11. Al-Kuraishy HM, Al-Gareeb AI, Mostafa-Hedeab G, Kasozi KI, Zirintunda G, Aslam A, Allahyani M, Welburn SC, Batisha GE (2021) Effects of β-Blockers on the Sympathetic and Cytokines Storms in Covid-19. *Front Immunol* 12: 749291
12. Al-Omari B, McMeekin P, Allen AJ, Akram AR, Graziadio S, Suklan J, Jones WS, Lendrem BC, Winter A, Cullinan M *et al* (2021) Systematic review of studies investigating ventilator associated pneumonia diagnostics in intensive care. *BMC Pulm Med* 21: 196
13. Alber A, Stevens MP, Vervelde L (2021) The bird's immune response to avian pathogenic Escherichia coli. *Avian pathology : journal of the WVPA* 50: 382-391
14. Albery GF, Morris A, Morris S, Kenyon F, Nussey DH, Pemberton JM (2021a) Fitness Costs of Parasites Explain Multiple Life-History Trade-Offs in a Wild Mammal. *The American naturalist* 197: 324-335
15. Albery GF, Morris A, Morris S, Pemberton JM, Clutton-Brock TH, Nussey DH, Firth JA (2021b) Multiple spatial behaviours govern social network positions in a wild ungulate. *Ecology letters* 24: 676-686
16. Albuquerque CS, Černá P, Gunn-Moore DA (2021) Repeated bouts of pulmonary tuberculosis in a hunting cat: reinfection or recrudescence? *JFMS open reports* 7: 2055116921990292
17. Alfituri OA, Mararo EM, Steketee PC, Morrison LJ, Mabbott NA (2021a) Dermal bacterial LPS-stimulation reduces susceptibility to intradermal Trypanosoma brucei infection. *Sci Rep* 11: 9856



18. Alfituri OA, Quintana JF, MacLeod A, Garside P, Benson RA, Brewer JM, Mabbott NA, Morrison LJ, Capewell P (2021b) Corrigendum: To the Skin and Beyond: The Immune Response to African Trypanosomes as They Enter and Exit the Vertebrate Host. *Front Immunol* 12: 780758
19. Allan FK, Jayaraman S, Paxton E, Sindoya E, Kibona T, Fyumagwa R, Mramba F, Torr SJ, Hemmink JD, Toye P et al (2021a) Antigenic Diversity in Theileria parva Populations From Sympatric Cattle and African Buffalo Analyzed Using Long Read Sequencing. *Frontiers in genetics* 12: 684127
20. Allan FK, Sindoya E, Adam KE, Byamungu M, Lea RS, Lord JS, Mbata G, Paxton E, Mramba F, Torr SJ et al (2021b) A cross-sectional survey to establish Theileria parva prevalence and vector control at the wildlife-livestock interface, Northern Tanzania. *Preventive veterinary medicine* 196: 105491
21. Alsallakh MA, Sivakumaran S, Kennedy S, Vasileiou E, Lyons RA, Robertson C, Sheikh A, Davies GA (2021) Impact of COVID-19 lockdown on the incidence and mortality of acute exacerbations of chronic obstructive pulmonary disease: national interrupted time series analyses for Scotland and Wales. *BMC medicine* 19: 124
22. Álvarez de Haro N, Van AP, Robb CT, Rossi AG, Desbois AP (2021) Release of chromatin extracellular traps by phagocytes of Atlantic salmon, *Salmo salar* (Linnaeus, 1758). *Fish Shellfish Immunol* 119: 209-219
23. Álvarez-Narváez S, Giguère S, Cohen N, Slovis N, Vázquez-Boland JA (2021) Spread of Multidrug-Resistant *Rhodococcus equi*, United States. *Emerg Infect Dis* 27: 529-537
24. Angelova AG, Berx B, Bresnan E, Joye SB, Free A, Gutierrez T (2021) Inter- and Intra-Annual Bacterioplankton Community Patterns in a Deepwater Sub-Arctic Region: Persistent High Background Abundance of Putative Oil Degraders. *mBio* 12: e03701-03720
25. Arbyn M, Simon M, Peeters E, Xu L, Meijer C, Berkhof J, Cuschieri K, Bonde J, Ostrbenk Vanlencak A, Zhao FH et al (2021) 2020 list of human papillomavirus assays suitable for primary cervical cancer screening. *Clin Microbiol Infect* 27: 1083-1095
26. Archibong V, Usman IM, Kasozi KI, Aigbogun EO, Jr., Josiah I, Monima AL, Ssebuufu R, Chekwech G, Terkimbi SD, Owoisinke O et al (2021) Anxiety, Anger and Depression Amongst Low-Income Earners in Southwestern Uganda During the COVID-19 Total Lockdown. *Front Public Health* 9: 590458
27. Assil Z, Esegbe O, Mašek O, Gutierrez T, Free A (2021a) Corrigendum to "Specific enrichment of hydrocarbonclastic bacteria from diesel-amended soil on biochar particles" [Sci. Total Environ. (2021) 762:143084]. *The Science of the total environment* 776: 146796
28. Assil Z, Esegbe O, Mašek O, Gutierrez T, Free A (2021b) Specific enrichment of hydrocarbonclastic bacteria from diesel-amended soil on biochar particles. *The Science of the total environment* 762: 143084
29. Awasthi S, Campbell H, Dela Cruz CS, Graham HR, Greenslade L, Jehan F, Zar HJ (2021) What Does Severe Acute Respiratory Syndrome Coronavirus 2 Mean for Global Pneumonia Prevention, Diagnosis, and Treatment? *Chest* 159: 486-488
30. Awuah-Mensah G, McDonald J, Steketee PC, Autheman D, Whipple S, D'Archivio S, Brandt C, Clare S, Harcourt K, Wright GJ et al (2021) Reliable, scalable functional genetics in bloodstream-form *Trypanosoma congolense* in vitro and in vivo. *PLoS Pathog* 17: e1009224
31. Azasi Y, Low LM, Just AN, Raghavan SSR, Wang CW, Valenzuela-Leon P, Rowe JA, Smith JD, Lavstsen T, Turner L et al (2021) Complement C1s cleaves PfEMP1 at interdomain conserved sites inhibiting *Plasmodium falciparum* cytoadherence. *Proc Natl Acad Sci U S A* 118: e2104166118
32. Bacon H, Vigors B, Shaw DJ, Waran N, Dwyer CM, Bell C (2021a) Is Animal Welfare an Internationally Understood Concept in the Zoo World? Thematic Analysis of Two Regional Groups of Zoo Staff. *Animals : an open access journal from MDPI* 11: 2059
33. Bacon H, Vigors B, Shaw DJ, Waran N, Dwyer CM, Bell C (2021b) Zookeepers - The most important animal in the zoo? *J Appl Anim Welf Sci*: 1-13
34. Bagulo H, Majekodunmi AO, Welburn SC (2021) Hepatitis E in Sub Saharan Africa - A significant emerging disease. *One health (Amsterdam, Netherlands)* 11: 100186
35. Bain SA, Marshall H, de la Filia AG, Laetsch DR, Husnik F, Ross L (2021) Sex-specific expression and DNA methylation in a species with extreme sexual dimorphism and paternal genome elimination. *Mol Ecol* 30: 5687-5703



36. Ball E, Karavatra B, Kremer-Yeatman BJ, Mustard C, Lee KM, Bhogal S, Dodds J, Horne AW, Allotey J, Rivas C (2021) Systematic review of patient-specific pre-operative predictors of pain improvement to endometriosis surgery. *Reprod Fertil* 2: 69-80
37. Ballou ER, Cook AG, Wallace EWJ (2021) Repeated Evolution of Inactive Pseudonucleases in a Fungal Branch of the Dis3/RNase II Family of Nucleases. *Mol Biol Evol* 38: 1837-1846
38. Barría A, Trinh TQ, Mahmuddin M, Peñaloza C, Papadopoulou A, Gervais O, Chadag VM, Benzie JAH, Houston RD (2021) Correction to: A major quantitative trait locus affecting resistance to Tilapia lake virus in farmed Nile tilapia (*Oreochromis niloticus*). *Heredity (Edinb)* 127: 344
39. Bartley DJ, Andrews L, Melville LA, McBean D, Skuce P, Morrison AA (2021) Integrating applied parasitological and molecular epidemiological methodologies to investigate the capacity of *Haemonchus contortus* to over-winter on pasture in Scotland. *Vet Rec* 189: e137
40. Baxter MS, Tibble H, Bush A, Sheikh A, Schwarze J (2021) Effectiveness of mobile health interventions to improve nasal corticosteroid adherence in allergic rhinitis: A systematic review. *Clin Transl Allergy* 11: e12075
41. Bayne RA, Jayachandran U, Kasprowicz A, Bresson S, Tollvervey D, Wallace EWJ, Cook AG (2021) Yeast Ssd1 is a non-enzymatic member of the RNase II family with an alternative RNA recognition site. *Nucleic Acids Res* 50: 2923-2937
42. Bease AG, Blackburn EA, Chintoan-Uta C, Webb S, Cassady-Cain RL, Stevens MP (2021a) Activity of lymphostatin, a lymphocyte inhibitory virulence factor of pathogenic *Escherichia coli*, is dependent on a cysteine protease motif. *Journal of molecular biology* 433: 167200
43. Bease AG, Cassady-Cain RL, Stevens MP (2021b) Interaction of Bovine Lymphocytes with Products of Shiga Toxin-Producing *Escherichia coli*. *Methods in molecular biology (Clifton, NJ)* 2291: 333-352
44. Bedi P, Cartlidge MK, Zhang Y, Turnbull K, Donaldson S, Clarke A, Crowe J, Campbell K, Graham C, Frangulyan R et al (2021a) Feasibility of shortening intravenous antibiotic therapy for bronchiectasis based on bacterial load: a proof-of-concept randomised controlled trial. *The European respiratory journal* 58
45. Bedi P, Ziegler K, Whitfield PD, Davidson D, Rossi AG, Hill AT (2021b) Dysregulation of prostaglandins, leukotrienes and lipoxin A(4) in bronchiectasis. *Thorax*
46. Benson L, Davidson RS, Green DM, Hoyle A, Hutchings MR, Marion G (2021) When and why direct transmission models can be used for environmentally persistent pathogens. *PLoS computational biology* 17: e1009652
47. Bhatia R, Alcaniz Boada E, Bonde JH, Quint WGV, Xu L, Ejegod DM, Cuschieri K, Arbyn M (2021a) Papilloplex HR-HPV test has non-inferior clinical performance for detection of human papillomavirus infection: assessment using the VALGENT framework. *J Clin Pathol*
48. Bhatia R, Boada EA, Bonde J, Quint W, Christiansen IK, Xu L, Ejegod DM, Moncur S, Cuschieri K, Arbyn M (2021b) Evaluation of HarmoniaHPV test for detection of clinically significant Human Papillomavirus infection using the VALGENT framework. *Journal of virological methods* 294: 114161
49. Bing R, Andrews JP, Williams MC, van Beek EJR, Lucatelli C, MacNaught G, Clark T, Koglin N, Stephens AW, MacAskill MG et al (2021) In vivo Thrombosis Imaging in Patients Recovering from COVID-19 and Pulmonary Embolism. *Am J Respir Crit Care Med* 204: 855-856
50. Birkin LJ, Vasileiou E, Stagg HR (2021) Citizen science in the time of COVID-19. *Thorax* 76: 636-637
51. Blanchard AM, Staley CE, Shaw L, Wattegedera SR, Baumbach CM, Michler JK, Rutland C, Back C, Newbold N, Entrican G et al (2021) A Trifecta of New Insights into Ovine Footrot for Infection Drivers, Immune Response and Host Pathogen Interactions. *Infect Immun* 89: iai0027021
52. Bleau JR, Spoel SH (2021) Selective redox signalling shapes plant-pathogen interactions. *Plant Physiol* 186: 53-65
53. Bloom CI, Drake TM, Docherty AB, Lipworth BJ, Johnston SL, Nguyen-Van-Tam JS, Carson G, Dunning J, Harrison EM, Baillie JK et al (2021) Risk of adverse outcomes in patients with underlying respiratory conditions admitted to hospital with COVID-19: a national, multicentre prospective cohort study using the ISARIC WHO Clinical Characterisation Protocol UK. *The Lancet Respiratory medicine* 9: 699-711



54. Bonde J, Floore A, Ejegod D, Vink FJ, Hesselink A, van de Ven PM, Valenčak AO, Pedersen H, Doorn S, Quint WG *et al* (2021) Methylation markers FAM19A4 and miR124-2 as triage strategy for primary human papillomavirus screen positive women: A large European multicenter study. *International journal of cancer* 148: 396-405
55. Brache V, Vieira CS, Plagianos M, Lansiaux M, Merkatz R, Sussman H, Cochon L, Tejada AS, Kumar N, Loeven D *et al* (2021) Pharmacodynamics and pharmacokinetics of a copper intrauterine contraceptive system releasing ulipristal acetate: a randomized proof-of-concept study. *Contraception* 104: 327-336
56. Bragg R, Macrae A, Lycett S, Burrough E, Russell G, Corbishley A (2021) Risk factor analysis for beef calves requiring assisted vaginal delivery in Great Britain. *Vet Rec* 188: e8
57. Bremner A, Kim S, Morris KM, Nolan MJ, Borowska D, Wu Z, Tomley F, Blake DP, Hawken R, Kaiser P *et al* (2021) Kinetics of the Cellular and Transcriptomic Response to *Eimeria maxima* in Relatively Resistant and Susceptible Chicken Lines. *Front Immunol* 12: 653085
58. Briggs EM, Rojas F, McCulloch R, Matthews KR, Otto TD (2021a) Single-cell transcriptomic analysis of bloodstream *Trypanosoma brucei* reconstructs cell cycle progression and developmental quorum sensing. *Nat Commun* 12: 5268
59. Briggs EM, Warren FSL, Matthews KR, McCulloch R, Otto TD (2021b) Application of single-cell transcriptomics to kinetoplastid research. *Parasitology* 148: 1223-1236
60. Bugembe DL, Phan MVT, Ssewanyana I, Semanda P, Nansumba H, Dhaala B, Nabadda S, O'Toole Á N, Rambaut A, Kaleebu P *et al* (2021) Emergence and spread of a SARS-CoV-2 lineage A variant (A.23.1) with altered spike protein in Uganda. *Nature microbiology* 6: 1094-1101
61. Butala C, Brook TM, Majekodunmi AO, Welburn SC (2021a) Neurocysticercosis: Current Perspectives on Diagnosis and Management. *Frontiers in veterinary science* 8: 615703
62. Butala C, Fyfe J, Welburn SC (2021b) The Contribution of Community Health Education to Sustainable Control of the Neglected Zoonotic Diseases. *Front Public Health* 9: 729973
63. Campbell C, Sommerfield T, Clark GRC, Porteous L, Milne AM, Millar R, Syme T, Thomson CS (2021) COVID-19 and cancer screening in Scotland: A national and coordinated approach to minimising harm. *Prev Med* 151: 106606
64. Campbell-Palmer R, Rosell F, Naylor A, Cole G, Mota S, Brown D, Fraser M, Pizzi R, Elliott M, Wilson K *et al* (2021) Eurasian beaver (*Castor fiber*) health surveillance in Britain: Assessing a disjunctive reintroduced population. *Vet Rec* 188: e84
65. Campillo M, Smith SH, Gally DL, Opriessnig T (2021) Review of methods for the detection of *Lawsonia intracellularis* infection in pigs. *Journal of veterinary diagnostic investigation : official publication of the American Association of Veterinary Laboratory Diagnosticians, Inc* 33: 621-631
66. Carniel BF, Marcon F, Rylance J, German EL, Zaidi S, Reiné J, Negera E, Nikolaou E, Pojar S, Solórzano C *et al* (2021) Pneumococcal colonization impairs mucosal immune responses to live attenuated influenza vaccine. *JCI insight* 6: e141088
67. Carruthers LV, Munday JC, Ebiloma GU, Steketee P, Jayaraman S, Campagnaro GD, Ungogo MA, Lemgruber L, Donachie AM, Rowan TG *et al* (2021) Diminazene resistance in *Trypanosoma congolense* is not caused by reduced transport capacity but associated with reduced mitochondrial membrane potential. *Mol Microbiol* 116: 564-588
68. Caspe SG, Palarea-Albaladejo J, Underwood C, Livingstone M, Wattegedera SR, Milne E, Sargison ND, Chianini F, Longbottom D (2021) Distribution and Severity of Placental Lesions Caused by the *Chlamydia abortus* 1B Vaccine Strain in Vaccinated Ewes. *Pathogens (Basel, Switzerland)* 10: 503
69. Cavers D, Duff R, Bikker A, Barnett K, Kanguru L, Weller D, Brewster DH, Campbell C (2021) Patient and GP experiences of pathways to diagnosis of a second primary cancer: a qualitative study. *BMC cancer* 21: 496
70. Cerna P, Archontakis PE, Cheuk HO, Gunn-Moore DA (2021) Comparison of Doppler ultrasonic and oscillometric devices (with or without proprietary optimisations) for non-invasive blood pressure measurement in conscious cats. *Journal of feline medicine and surgery* 23: 121-130



71. Chang AB, Boyd J, Bell L, Goyal V, Masters IB, Powell Z, Wilson C, Zacharasiewicz A, Alexopoulou E, Bush A *et al* (2021a) Clinical and research priorities for children and young people with bronchiectasis: an international roadmap. *ERJ open research* 7: 00122-02021
72. Chang AB, Fortescue R, Grimwood K, Alexopoulou E, Bell L, Boyd J, Bush A, Chalmers JD, Hill AT, Karadag B *et al* (2021b) European Respiratory Society guidelines for the management of children and adolescents with bronchiectasis. *The European respiratory journal* 58: 2002990
73. Chaudhry M, Rashid HB, Thrusfield M, Eisler MC, Welburn SC (2021a) Serosurvey of Avian Influenza Viruses (H5, H7, and H9) and Associated Risk Factors in Backyard Poultry Flocks of Lahore District, Pakistan. *Frontiers in veterinary science* 8: 631164
74. Chaudhry U, Ali Q, Zheng L, Rashid I, Shabbir MZ, Numan M, Ashraf K, Evans M, Rafiq S, Oneeb M *et al* (2021b) Contrasting population genetics of co-endemic cattle- and buffalo- derived *Theileria annulata*. *Ticks and tick-borne diseases* 12: 101595
75. Chen W, Bartley K, Nunn F, Bowman AS, Sternberg JM, Burgess STG, Nisbet AJ, Price DRG (2021) RNAi gene knockdown in the poultry red mite, *Dermanyssus gallinae* (De Geer 1778), a tool for functional genomics. *Parasit Vectors* 14: 57
76. Chodankar RR, Murray A, Nicol M, Whitaker LHR, Williams ARW, Critchley HOD (2021) The endometrial response to modulation of ligand-progesterone receptor pathways is reversible. *Fertility and sterility* 116: 882-895
77. Christopoulou N, Granneman S (2021) The role of RNA-binding proteins in mediating adaptive responses in Gram-positive bacteria. *The FEBS journal* 289: 1746-1764
78. Churakov M, Katholm J, Rogers S, Kao RR, Zadoks RN (2021) Assessing potential routes of *Streptococcus agalactiae* transmission between dairy herds using national surveillance, animal movement data and molecular typing. *Preventive veterinary medicine* 197: 105501
79. Clark J, McNally L, Little TJ (2021) Pathogen Dynamics across the Diversity of Aging. *The American naturalist* 197: 203-215
80. Cleland A, Malloy K, Donnelly MC, Davidson J, Simpson KJ, Petrik J (2021) Design and evaluation of Taqman low density array for monitoring post-transplant viral infections. *Transpl Infect Dis* 23: e13499
81. Clements AL, Peacock TP, Sealy JE, Lee HM, Hussain S, Sadeyen JR, Shelton H, Digard P, Iqbal M (2021) PA-X is an avian virulence factor in H9N2 avian influenza virus. *J Gen Virol* 102: 001531
82. Clifford S, Cevik M, Campbell R, O'Shea D, Sutherland R (2021) Expect the unexpected - Implications for next phase of COVID-19 response. *Infect Prev Pract* 3: 100118
83. Cole J, Angyal A, Emes RD, Mitchell TJ, Dickman MJ, Dockrell DH (2021) Pneumolysin Is Responsible for Differential Gene Expression and Modifications in the Epigenetic Landscape of Primary Monocyte Derived Macrophages. *Front Immunol* 12: 573266
84. Collaborative SCaC (2021) Death following pulmonary complications of surgery before and during the SARS-CoV-2 pandemic. *Br J Surg* 108: 1448-1464
85. Collins S, Schaum CE (2021) Growth strategies of a model picoplankter depend on social milieu and pCO(2). *Proc Biol Sci* 288: 20211154
86. Costa-Junior LM, Chaudhry UN, Silva CR, Sousa DM, Silva NC, Cutrim-Júnior JAA, Brito DRB, Sargison ND (2021) Nemabioome metabarcoding reveals differences between gastrointestinal nematode species infecting co-grazed sheep and goats. *Vet Parasitol* 289: 109339
87. Costa-Martins AG, Mane K, Lindsey BB, Ogava RLT, Castro Í, Jagne YJ, Sallah HJ, Armitage EP, Jarju S, Ahadzie B *et al* (2021) Prior upregulation of interferon pathways in the nasopharynx impacts viral shedding following live attenuated influenza vaccine challenge in children. *Cell Rep Med* 2: 100465
88. Cotton S, McHugh MP, Etherson M, Shepherd J, Templeton KE (2021) Evaluation of the molecular detection of ciprofloxacin resistance in *Neisseria gonorrhoeae* by the ResistancePlus GC assay (SpeeDx). *Diagn Microbiol Infect Dis* 99: 115262



89. Cowling P, Bradley M, Lilienkampf A (2021) Attaching palladium catalysts to antibodies. *Bioorg Med Chem* 44: 116298
90. Craven TH, Walton T, Akram AR, Scholefield E, McDonald N, Marshall ADL, Humphries DC, Mills B, Campbell TA, Bruce A *et al* (2021) Activated neutrophil fluorescent imaging technique for human lungs. *Sci Rep* 11: 976
91. Crawford AA, Bankier S, Altmaier E, Barnes CLK, Clark DW, Ermel R, Friedrich N, van der Harst P, Joshi PK, Karhunen V *et al* (2021) Variation in the SERPINA6/SERPINA1 locus alters morning plasma cortisol, hepatic corticosteroid binding globulin expression, gene expression in peripheral tissues, and risk of cardiovascular disease. *J Hum Genet* 66: 625-636
92. Crestani C, Forde TL, Lycett SJ, Holmes MA, Fasth C, Persson-Waller K, Zadoks RN (2021) The fall and rise of group B Streptococcus in dairy cattle: reintroduction due to human-to-cattle host jumps? *Microbial genomics* 7: 000648
93. Crittenden S, Goepp M, Pollock J, Robb CT, Smyth DJ, Zhou Y, Andrews R, Tyrrell V, Gkikas K, Adima A *et al* (2021) Prostaglandin E(2) promotes intestinal inflammation via inhibiting microbiota-dependent regulatory T cells. *Science advances* 7
94. Croasdell Lucchini A, Gachanja NN, Rossi AG, Dorward DA, Lucas CD (2021) Epithelial Cells and Inflammation in Pulmonary Wound Repair. *Cells* 10
95. Cuellar-Partida G, Tung JY, Eriksson N, Albrecht E, Aliev F, Andreassen OA, Barroso I, Beckmann JS, Boks MP, Boomsma DI *et al* (2021) Genome-wide association study identifies 48 common genetic variants associated with handedness. *Nature human behaviour* 5: 59-70
96. Cui B, Ma X, Li Y, Zhou Y, Ju X, Hussain A, Umbreen S, Yuan B, Tabassum A, Lubega J *et al* (2021a) Perturbations in nitric oxide homeostasis promote Arabidopsis disease susceptibility towards Phytophthora parasitica. *Molecular plant pathology* 22: 1134-1148
97. Cui B, Xu S, Li Y, Umbreen S, Frederickson D, Yuan B, Jiang J, Liu F, Pan Q, Loake GJ (2021b) The Arabidopsis zinc finger proteins SRG2 and SRG3 are positive regulators of plant immunity and are differentially regulated by nitric oxide. *The New phytologist* 230: 259-274
98. Cuschieri K (2021) Risk adaptive triage in cervical screening: challenges and opportunities. *Cytopathology : official journal of the British Society for Clinical Cytology* 32: 712-713
99. Cuschieri K, Wilson A, Palmer T, Stanczuk G, Bhatia R, Ejegod D, Bonde J (2021) The challenges of defining sample adequacy in an era of HPV based cervical screening. *Journal of clinical virology : the official publication of the Pan American Society for Clinical Virology* 137: 104756
100. da Silva Filipe A, Shepherd JG, Williams T, Hughes J, Aranday-Cortes E, Asamaphan P, Ashraf S, Balcazar C, Brunker K, Campbell A *et al* (2021a) Genomic epidemiology reveals multiple introductions of SARS-CoV-2 from mainland Europe into Scotland. *Nature microbiology* 6: 112-122
101. da Silva Filipe A, Shepherd JG, Williams T, Hughes J, Aranday-Cortes E, Asamaphan P, Ashraf S, Balcazar C, Brunker K, Campbell A *et al* (2021b) Publisher Correction: Genomic epidemiology reveals multiple introductions of SARS-CoV-2 from mainland Europe into Scotland. *Nature microbiology* 6: 271
102. Dagleish MP, Perri A, Maley M, Ballingall KT, Baily JL, Davison NJ, Brownlow AC, Rocchi MS (2021) Novel Dermatitis and Relative Viral Nucleic Acid Tissue Loads in a Fin Whale (*Balaenoptera physalus*) with Systemic Cetacean Morbillivirus Infection. *J Comp Pathol* 183: 57-62
103. Dahm JR, Bailey JB, Kelly RF, Chikungwa P, Chulu J, Junior LC, Freeman EJ, Mayer D, Mazeri S, Sargison ND (2021) Risk factors associated with Ctenocephalides felis flea infestation of peri-urban goats: a neglected parasite in an under-appreciated host. *Tropical animal health and production* 53: 181
104. Davidson MS, Andradi-Brown C, Yahiya S, Chmielewski J, O'Donnell AJ, Gurung P, Jeninga MD, Prommana P, Andrew DW, Petter M *et al* (2021) Automated detection and staging of malaria parasites from cytological smears using convolutional neural networks. *Biol Imaging* 1: e2
105. Davison NJ, Brownlow A, Doeschate MT, Dale EJ, Foster G, Muchowski J, Perrett LL, Rocchi M, Whatmore AM, Dagleish MP (2021) Neurobrucellosis due to Brucella ceti ST26 in Three Sowerby's Beaked Whales (*Mesoplodon bidens*). *J Comp Pathol* 182: 1-8



106. De Cesare S, Campopiano DJ (2021) The N-Acetyl Amino Acid Racemases (NAAARs); Native and evolved biocatalysts applied to the synthesis of canonical and non-canonical amino acids. *Curr Opin Biotechnol* 69: 212-220
107. De Cesare S, McKenna CA, Mulholland N, Murray L, Bella J, Campopiano DJ (2021) Direct monitoring of biocatalytic deacetylation of amino acid substrates by (1)H NMR reveals fine details of substrate specificity. *Organic & biomolecular chemistry* 19: 4904-4909
108. de Koff EM, Man WH, van Houten MA, Jansen NJG, Arp K, Hasrat R, Sanders EAM, Bogaert D (2021a) The respiratory microbiota during and following mechanical ventilation for respiratory infections in children. *The European respiratory journal* 57
109. de Koff EM, Man WH, van Houten MA, Vlieger AM, Chu M, Sanders EAM, Bogaert D (2021b) Microbial and clinical factors are related to recurrence of symptoms after childhood lower respiratory tract infection. *ERJ open research* 7: 00939-02020
110. de Koff EM, van Houten MA, Sanders EAM, Bogaert D (2021c) Severity of Respiratory Infections With Seasonal Coronavirus Is Associated With Viral and Bacterial Coinfections. *The Pediatric infectious disease journal* 40: e36-e39
111. de la Filia AG, Mongue AJ, Dorrens J, Lemon H, Laetsch DR, Ross L (2021) Males That Silence Their Father's Genes: Genomic Imprinting of a Complete Haploid Genome. *Mol Biol Evol* 38: 2566-2581
112. De Soya A, Mawson P, Hill AT, Elborn S, Bradley JM, Haworth CS, Floto RA, Wilson R, Loebinger MR, Carroll M et al (2021) BronchUK: protocol for an observational cohort study and biobank in bronchiectasis. *ERJ open research* 7
113. De Togni G, Erikainen S, Chan S, Cunningham-Burley S (2021) What makes AI 'intelligent' and 'caring'? Exploring affect and relationality across three sites of intelligence and care. *Social science & medicine* (1982) 277: 113874
114. Dejnirattisai W, Huo J, Zhou D, Zahradník J, Supasa P, Liu C, Duyvesteyn HME, Ginn HM, Mentzer AJ, Tuekprakhon A et al (2021) Omicron-B.1.1.529 leads to widespread escape from neutralizing antibody responses. *bioRxiv : the preprint server for biology*
115. Dellicour S, Gill MS, Faria NR, Rambaut A, Pybus OG, Suchard MA, Lemey P (2021) Relax, keep walking-a practical guide to continuous phylogeographic inference with BEAST. *Mol Biol Evol* 38: 3486-3493
116. DeMerle KM, Angus DC, Baillie JK, Brant E, Calfree CS, Carillo J, Chang CH, Dickson R, Evans I, Gordon AC et al (2021) Sepsis Subclasses: A Framework for Development and Interpretation. *Critical care medicine* 49: 48-759
117. Dicks P, Schwarze J, Dimitri P (2021) Impact of clinical and patient pathway changes on paediatric research during the national COVID-19 response. *Arch Dis Child* 106: e50
118. Docherty AB, Mulholland RH, Lone NI, Cheyne CP, De Angelis D, Diaz-Ordaz K, Donegan C, Drake TM, Dunning J, Funk S et al (2021) Changes in in-hospital mortality in the first wave of COVID-19: a multicentre prospective observational cohort study using the WHO Clinical Characterisation Protocol UK. *The Lancet Respiratory medicine* 9: 773-785
119. Doeschl-Wilson A, Knap PW, Opriessnig T, More SJ (2021) Review: Livestock disease resilience: from individual to herd level. *Animal* 15 Suppl 1: 100286
120. Dolby HW, Potey P, Wilder-Smith AB, Clohissey S, Millar JE, Baillie JK, Dorward DA, Lucas CD, Russell CD (2021) Histological Evidence of Pulmonary Microthrombosis and Vasculitis in Life-Threatening Respiratory Virus Diseases. *Open forum infectious diseases* 8: ofaa640
121. Donaldson DS, Shih BB, Mabbott NA (2021) Aging-Related Impairments to M Cells in Peyer's Patches Coincide With Disturbances to Paneth Cells. *Front Immunol* 12: 761949
122. Dong Y, Shamsuddin A, Campbell H, Theodoratou E (2021) Current COVID-19 treatments: Rapid review of the literature. *J Glob Health* 11: 10003
123. Dorning A, Dhami P, Panir K, Hogg C, Park E, Ferguson GD, Hargrove D, Karras J, Horne AW, Greaves E (2021) Bioluminescent imaging in induced mouse models of endometriosis reveals differences in four model variations. *Disease models & mechanisms* 14



124. Dorward DA, Russell CD, Um IH, Elshani M, Armstrong SD, Penrice-Randal R, Millar T, Lerpiniere CEB, Tagliavini G, Hartley CS *et al* (2021) Tissue-Specific Immunopathology in Fatal COVID-19. *Am J Respir Crit Care Med* 203: 192-201
125. Drake TM, Fairfield CJ, Pius R, Knight SR, Norman L, Girvan M, Hardwick HE, Docherty AB, Thwaites RS, Openshaw PJM *et al* (2021a) Non-steroidal anti-inflammatory drug use and outcomes of COVID-19 in the ISARIC Clinical Characterisation Protocol UK cohort: a matched, prospective cohort study. *Lancet Rheumatol* 3: e498-e506
126. Drake TM, Riad AM, Fairfield CJ, Egan C, Knight SR, Pius R, Hardwick HE, Norman L, Shaw CA, McLean KA *et al* (2021b) Characterisation of in-hospital complications associated with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol UK: a prospective, multicentre cohort study. *Lancet* 398: 223-237
127. du Plessis L, McCrone JT, Zarebski AE, Hill V, Ruis C, Gutierrez B, Raghwani J, Ashworth J, Colquhoun R, Connor TR *et al* (2021) Establishment and lineage dynamics of the SARS-CoV-2 epidemic in the UK. *Science* 371: 708-712
128. Duffy JMN, Adamson GD, Benson E, Bhattacharya S, Bhattacharya S, Bofill M, Brian K, Collura B, Curtis C, Evers JLH *et al* (2021) Top 10 priorities for future infertility research: an international consensus development study. *Fertility and sterility* 115: 180-190
129. Engelmann L (2021) A box, a trough and marbles: How the Reed-Frost epidemic theory shaped epidemiological reasoning in the 20th century. *Hist Philos Life Sci* 43: 105
130. Erikainen S, Stewart E, Filipe AM, Chan S, Cunningham-Burley S, Ilson S, King G, Porteous C, Sinclair S, Webb J (2021) Towards a feminist philosophy of engagements in health-related research. *Wellcome open research* 6
131. Erol E, Scotti M, Fortner J, Patel M, Vázquez-Boland JA (2021) Antimicrobial resistance spectrum conferred by pRErm46 of emerging macrolide (multidrug)-resistant *Rhodococcus equi*. *Journal of clinical microbiology* 59: Jcm0114921
132. Evans MJ, Chaudhry UN, Costa-Júnior LM, Hamer K, Leeson SR, Sargison ND (2021a) A 4 year observation of gastrointestinal nematode egg counts, nemabiomes and the benzimidazole resistance genotypes of *Teladorsagia circumcincta* on a Scottish sheep farm. *Int J Parasitol* 51: 393-403
133. Evans RA, McAuley H, Harrison EM, Shikotra A, Singapuri A, Sereno M, Elneima O, Docherty AB, Lone NI, Leavy OC *et al* (2021b) Physical, cognitive, and mental health impacts of COVID-19 after hospitalisation (PHOSP-COVID): a UK multicentre, prospective cohort study. *The Lancet Respiratory medicine* 9: 1275-1287
134. Everett HE, van Diemen PM, Aramouni M, Ramsay A, Coward VJ, Pavot V, Canini L, Holzer B, Morgan S, Woolhouse MEJ *et al* (2021) Vaccines That Reduce Viral Shedding Do Not Prevent Transmission of H1N1 Pandemic 2009 Swine Influenza A Virus Infection to Unvaccinated Pigs. *J Virol* 95
135. Fadista J, Kraven LM, Karjalainen J, Andrews SJ, Geller F, Baillie JK, Wain LV, Jenkins RG, Feenstra B (2021) Shared genetic etiology between idiopathic pulmonary fibrosis and COVID-19 severity. *EBioMedicine* 65: 103277
136. Fanning JP, Murthy S, Obonyo NG, Baillie JK, Webb S, Dalton HJ, Fraser JF (2021) Global infectious disease research collaborations in crises: building capacity and inclusivity through cooperation. *Global Health* 17: 84
137. Faria NR, Mellan TA, Whittaker C, Claro IM, Candido DDS, Mishra S, Crispim MAE, Sales FC, Hawryluk I, McCrone JT *et al* (2021) Genomics and epidemiology of a novel SARS-CoV-2 lineage in Manaus, Brazil. *medRxiv*
138. Fay P, Limon G, Ulziibat G, Khanui B, Myagmarsuren O, Tore G, Khishgee B, Flannery J, Sandag B, Damdinjav B *et al* (2021) A field study evaluating the humoral immune response in Mongolian sheep vaccinated against sheepox virus. *Transbound Emerg Dis*
139. Fernandes S, Williams G, Williams E, Ehrlich K, Stone J, Finlayson N, Bradley M, Thomson RR, Akram AR, Dhaliwal K (2021) Solitary pulmonary nodule imaging approaches and the role of optical fibre-based technologies. *The European respiratory journal* 57
140. Fernández Rivas C, Porphyre T, Chase-Topping ME, Knapp CW, Williamson H, Barraud O, Tongue SC, Silva N, Currie C, Elsby DT *et al* (2021) High Prevalence and Factors Associated With the Distribution of the Integron intI1 and intI2 Genes in Scottish Cattle Herds. *Frontiers in veterinary science* 8: 755833



141. Fitzgerald SF, Lupolova N, Shaaban S, Dallman TJ, Greig D, Allison L, Tongue SC, Evans J, Henry MK, McNeilly TN *et al* (2021a) Genome structural variation in Escherichia coli O157:H7. *Microbial genomics* 7
142. Fitzgerald SF, Rossi G, Low AS, McAteer SP, O'Keefe B, Findlay D, Cameron GJ, Pollard P, Singleton PTR, Ponton G *et al* (2021b) Site Specific Relationships between COVID-19 Cases and SARS-CoV-2 Viral Load in Wastewater Treatment Plant Influent. *Environmental science & technology* 55: 15276-15286
143. Fitzgibbon MM, Roycroft E, Sheehan G, Mc Laughlin AM, Quintyne KI, Brabazon E, O'Meara M, Flanagan PR, Seagar AL, Laurenson IF *et al* (2021) False detection of rifampicin resistance using Xpert[®] MTB/RIF Ultra assay due to an A451V mutation in Mycobacterium tuberculosis. *JAC Antimicrob Resist* 3: dlab101
144. Flanagan H, Lin CJ, Campbell LL, Horner P, Horne AW, Spears N (2021) Ectopic pregnancy and epithelial to mesenchymal transition: is there a link? *Reproduction (Cambridge, England)* 161: V11-v14
145. Flannery J, Shih B, Haga IR, Ashby M, Corla A, King S, Freimanis G, Polo N, Tse AC, Brackman CJ *et al* (2021) A novel strain of lumpy skin disease virus causes clinical disease in cattle in Hong Kong. *Transbound Emerg Dis*
146. Flook M, Jackson C, Vasileiou E, Simpson CR, Muckian MD, Agrawal U, McCowan C, Jia Y, Murray JLK, Ritchie LD *et al* (2021) Informing the public health response to COVID-19: a systematic review of risk factors for disease, severity, and mortality. *BMC Infect Dis* 21: 342
147. Fontanet A, Autran B, Lina B, Kiény MP, Karim SSA, Sridhar D (2021a) SARS-CoV-2 variants and ending the COVID-19 pandemic. *Lancet* 397: 952-954
148. Fontanet A, Grant R, Greve-Isdahl M, Sridhar D (2021b) Covid-19: Keeping schools as safe as possible. *Bmj* 372: n524
149. Fridman S, Tsairidou S, Jayasuriya N, Sobolewska H, Hamilton A, Lobos C, Houston RD, Rodger H, Bron J, Herath T (2021) Assessment of Marine Gill Disease in Farmed Atlantic Salmon (*Salmo salar*) in Chile Using a Novel Total Gross Gill Scoring System: A Case Study. *Microorganisms* 9
150. Froy H, Underwood SL, Dorrens J, Seeker LA, Watt K, Wilbourn RV, Pilkington JG, Harrington L, Pemberton JM, Nussey DH (2021) Heritable variation in telomere length predicts mortality in Soay sheep. *Proc Natl Acad Sci U SA* 118
151. Fry R, Hollinghurst J, Stagg HR, Thompson DA, Fronterre C, Orton C, Lyons RA, Ford DV, Sheikh A, Diggle PJ (2021) Real-time spatial health surveillance: Mapping the UK COVID-19 epidemic. *Int J Med Inform* 149: 104400
152. Fukushige M, Chase-Topping M, Woolhouse MEJ, Mutapi F (2021) Efficacy of praziquantel has been maintained over four decades (from 1977 to 2018): A systematic review and meta-analysis of factors influence its efficacy. *PLoS Negl Trop Dis* 15: e0009189
153. Gachanja NN, Dorward DA, Rossi AG, Lucas CD (2021) Correction to: Assays of Eosinophil Apoptosis and Phagocytic Uptake. *Methods in molecular biology (Clifton, NJ)* 2241: C1
154. Gadalla AAH, Siciliano G, Farid R, Alano P, Ranford-Cartwright L, McCarthy JS, Thompson J, Babiker HA (2021) Real-time PCR assays for detection and quantification of early *P. falciparum* gametocyte stages. *Sci Rep* 11: 19118
155. Gaughan E, Quinn T, Bruce A, Antonelli J, Young V, Mair J, Akram A, Hirani N, Koch O, Mackintosh C *et al* (2021) Evaluation of new or repurposed treatments for COVID-19: protocol for the phase Ib/Ila DEFINE trial platform. *BMJ open* 11: e054442
156. Gaunt ER, Digard P (2021) Compositional biases in RNA viruses: Causes, consequences and applications. *Wiley interdisciplinary reviews RNA* 13: e1679
157. Gauzere J, Walling CA, Pick JL, Watt K, Jack P, Morris A, Morris S, Pemberton JM (2021) The role of maternally transferred antibodies in maternal performance in red deer. *Ecology letters* 24: 2065-2076
158. Gazquez-Gutierrez A, Witteveldt J, S RH, Macias S (2021) Sensing of transposable elements by the antiviral innate immune system. *RNA (New York, NY)* 27: 735-752
159. Geng J, Zhang Y, Gao Q, Neumann K, Dong H, Porter H, Potter M, Ren H, Argyle D, Bradley M (2021) Switching on prodrugs using radiotherapy. *Nature chemistry* 13: 805-810



160. Gerhardy S, Oborská-Oplová M, Gillet L, Börner R, van Nues R, Leitner A, Michel E, Petkowski JJ, Granneman S, Sigel RKO *et al* (2021) Puf6 primes 60S pre-ribosome nuclear export at low temperature. *Nat Commun* 12: 4696
161. Gheyas AA, Vallejo-Trujillo A, Kebede A, Lozano-Jaramillo M, Dessie T, Smith J, Hanotte O (2021) Integrated environmental and genomic analysis reveals the drivers of local adaptation in African indigenous chickens. *Mol Biol Evol* 38: 4268-4285
162. Gibson DA, Collins F, De Leo B, Horne AW, Saunders PTK (2021) Pelvic pain correlates with peritoneal macrophage abundance not endometriosis. *Reprod Fertil* 2: 47-57
163. Gillan JL, Davidson DJ, Gray RD (2021a) Targeting cystic fibrosis inflammation in the age of CFTR modulators: focus on macrophages. *The European respiratory journal* 57
164. Gillan JL, Hardisty GR, Davidson DJ, Gray RD (2021b) Macrophages from gut-corrected CF mice express human CFTR and lack a pro-inflammatory phenotype. *Journal of cystic fibrosis : official journal of the European Cystic Fibrosis Society* 21: 370-374
165. Gilleard JS, Kotze AC, Leathwick D, Nisbet AJ, McNeilly TN, Besier B (2021) A journey through 50 years of research relevant to the control of gastrointestinal nematodes in ruminant livestock and thoughts on future directions. *Int J Parasitol* 51: 1133-1151
166. Goepp M, Crittenden S, Zhou Y, Rossi AG, Narumiya S, Yao C (2021) Prostaglandin E(2) directly inhibits the conversion of inducible regulatory T cells through EP2 and EP4 receptors via antagonizing TGF- β signalling. *Immunology* 164: 777-791
167. Gondim MVP, Sherrill-Mix S, Bibollet-Ruche F, Russell RM, Trimboli S, Smith AG, Li Y, Liu W, Avitto AN, DeVoto JC *et al* (2021) Heightened resistance to host type 1 interferons characterizes HIV-1 at transmission and after antiretroviral therapy interruption. *Science translational medicine* 13
168. Goodier MR, Riley EM (2021) Regulation of the human NK cell compartment by pathogens and vaccines. *Clinical & translational immunology* 10: e1244
169. Graham LC, Kline RA, Lamont DJ, Gillingwater TH, Mabbott NA, Skehel PA, Wishart TM (2021) Temporal Profiling of the Cortical Synaptic Mitochondrial Proteome Identifies Ageing Associated Regulators of Stability. *Cells* 10
170. Griffiths SE, Koumakis N, Brown AT, Vissers T, Warren PB, Poon WCK (2021) Diffusion, phase behavior, and gelation in a two-dimensional layer of colloids in osmotic equilibrium with a polymer reservoir. *The Journal of chemical physics* 155: 074903
171. Group ICC (2021a) COVID-19 symptoms at hospital admission vary with age and sex: results from the ISARIC prospective multinational observational study. *Infection*: 1-17
172. Group ICC (2021b) The value of open-source clinical science in pandemic response: lessons from ISARIC. *The Lancet Infectious diseases* 21: 1623-1624
173. Group RC (2021c) Aspirin in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial. *Lancet*
174. Group RC (2021d) Azithromycin in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial. *Lancet* 397: 605-612
175. Group RC (2021e) Convalescent plasma in patients admitted to hospital with COVID-19 (RECOVERY): a randomised controlled, open-label, platform trial. *Lancet* 397: 2049-2059
176. Group RC (2021f) Tocilizumab in patients admitted to hospital with COVID-19 (RECOVERY): a randomised, controlled, open-label, platform trial. *Lancet* 397: 1637-1645
177. Gupta RK, Harrison EM, Ho A, Docherty AB, Knight SR, van Smeden M, Abubakar I, Lipman M, Quartagno M, Pius R *et al* (2021) Development and validation of the ISARIC 4C Deterioration model for adults hospitalised with COVID-19: a prospective cohort study. *The Lancet Respiratory medicine* 9: 349-359
178. Gwyer Findlay E (2021) We need to talk about neutrophils. *Immunology* 164: 655-656



179. Halabi S, Ghosh M, Stevanović S, Rammensee HG, Bertzbach LD, Kaufer BB, Moncrieffe MC, Kaspers B, Härtle S, Kaufman J (2021) The dominantly expressed class II molecule from a resistant MHC haplotype presents only a few Marek's disease virus peptides by using an unprecedented binding motif. *PLoS Biol* 19: e3001057
180. Hale T, Angrist N, Hale AJ, Kira B, Majumdar S, Petherick A, Phillips T, Sridhar D, Thompson RN, Webster S et al (2021) Government responses and COVID-19 deaths: Global evidence across multiple pandemic waves. *PLoS one* 16: e0253116
181. Halford S, Wan S, Dragoni I, Silvester J, Nazarov B, Anthony D, Anthony S, Ladds E, Norrie J, Dhaliwal K (2021) SPIKE-1: A Randomised Phase II/III trial in a community setting, assessing use of camostat in reducing the clinical progression of COVID-19 by blocking SARS-CoV-2 Spike protein-initiated membrane fusion. *Trials* 22: 550
182. Hall MD, Baruch J, Carson G, Citairella BW, Dagens A, Dankwa EA, Donnelly CA, Dunning J, Escher M, Kartsonaki C et al (2021) Ten months of temporal variation in the clinical journey of hospitalised patients with COVID-19: An observational cohort. *eLife* 10
183. Harden J, Black R, Pickersgill M, Shetty J, McLellan A, Brand C, Small M, McDonnell J, Clarke L, Chin RF (2021) Children's understanding of epilepsy: A qualitative study. *Epilepsy Behav* 120: 107994
184. Hardisty GR, Knipper JA, Fulton A, Hopkins J, Dutia BM, Taylor MD (2021a) Concurrent Infection With the Filarial Helminth Litomosoides sigmodontis Attenuates or Worsens Influenza A Virus Pathogenesis in a Stage-Dependent Manner. *Front Immunol* 12: 819560
185. Hardisty GR, Llanwarne F, Minns D, Gillan JL, Davidson DJ, Gwyer Findlay E, Gray RD (2021b) High Purity Isolation of Low Density Neutrophils Casts Doubt on Their Exceptionality in Health and Disease. *Front Immunol* 12: 625922
186. Harpur A, Minton J, Ramsay J, McCartney G, Fenton L, Campbell H, Wood R (2021) Trends in infant mortality and stillbirth rates in Scotland by socio-economic position, 2000-2018: a longitudinal ecological study. *BMC public health* 21: 995
187. Harvey WT, Carabelli AM, Jackson B, Gupta RK, Thomson EC, Harrison EM, Ludden C, Reeve R, Rambaut A, Peacock SJ et al (2021) SARS-CoV-2 variants, spike mutations and immune escape. *Nature reviews Microbiology* 19: 409-424
188. Hasrat R, Kool J, de Steenhuijsen Piters WAA, Chu M, Kuiling S, Groot JA, van Logchem EM, Fuentes S, Franz E, Bogaert D et al (2021) Benchmarking laboratory processes to characterise low-biomass respiratory microbiota. *Sci Rep* 11: 17148
189. Hassan I, Mukaiigawara M, King L, Fernandes G, Sridhar D (2021) Hindsight is 2020? Lessons in global health governance one year into the pandemic. *Nature medicine* 27: 396-400
190. Hayward AD, Skuce PJ, McNeilly TN (2021a) The influence of liver fluke infection on production in sheep and cattle: a meta-analysis. *Int J Parasitol* 51: 13-924
191. Hayward AD, Skuce PJ, McNeilly TN (2021b) Tolerance of liver fluke infection varies between breeds and producers in beef cattle. *Animal* 15: 100126
192. He Y, Timofeeva M, Zhang X, Xu W, Li X, Din FVN, Sinti V, Farrington SM, Campbell H, Dunlop MG et al (2021a) Colorectal cancer risk variants rs10161980 and rs7495132 are associated with cancer survival outcome by a recessive mode of inheritance. *International journal of cancer* 148: 2774-2778
193. He Y, Zhang X, Timofeeva M, Farrington SM, Li X, Xu W, Campbell H, Houlston RS, Tomlinson IP, Theodoratou E et al (2021b) Bi-directional Mendelian randomisation analysis of the relationship between circulating vitamin D concentration and colorectal cancer risk. *International journal of cancer* 150: 303-307
194. Hearn J, Plenderleith F, Little TJ (2021) DNA methylation differs extensively between strains of the same geographical origin and changes with age in *Daphnia magna*. *Epigenetics Chromatin* 14: 4
195. Hierro-Yap C, Šubrtová K, Gahura O, Panicucci B, Dewar C, Chinopoulos C, Schnaufer A, Zíková A (2021) Bioenergetic consequences of F(o)F(1)-ATP synthase/ATPase deficiency in two life cycle stages of *Trypanosoma brucei*. *The Journal of biological chemistry* 296: 100357



196. Hildersley KA, McNeilly TN, Gillan V, Otto TD, Löser S, Gerbe F, Jay P, Maizels RM, Devaney E, Britton C (2021) Tuft Cells Increase Following Ovine Intestinal Parasite Infections and Define Evolutionarily Conserved and Divergent Responses. *Front Immunol* 12: 781108
197. Hitchcock TJ, Gardner A, Ross L (2021) Sexual antagonism in haplodiploids. *Evolution; international journal of organic evolution* 76: 292-309
198. Hodge MA, Boulton KA, Sutherland R, Barnett D, Bennett B, Chan E, Cramsie J, Drevensek S, Eapen V, Ganesalingam K et al (2021) Predictors of adaptive functioning in preschool aged children with autism spectrum disorder. *Autism Res* 14: 1444-1455
199. Hodson CN, Ross L (2021) Evolutionary Perspectives on Germline-Restricted Chromosomes in Flies (Diptera). *Genome biology and evolution* 13
200. Hogg C, Panir K, Dhami P, Rosser M, Mack M, Soong D, Pollard JW, Jenkins SJ, Horne AW, Greaves E (2021) Macrophages inhibit and enhance endometriosis depending on their origin. *Proc Natl Acad Sci U S A* 118
201. Holbrook AJ, Lemey P, Baele G, Dellicour S, Brockmann D, Rambaut A, Suchard MA (2021) Massive parallelization boosts big Bayesian multidimensional scaling. *J Comput Graph Stat* 30: 11-24
202. Holmes EC, Goldstein SA, Rasmussen AL, Robertson DL, Crits-Christoph A, Wertheim JO, Anthony SJ, Barclay WS, Boni MF, Doherty PC et al (2021) The origins of SARS-CoV-2: A critical review. *Cell* 184: 4848-4856
203. Hölder JE, Grey F, Baillie JK, Regan T, Parkinson NJ, Höper D, Thamamongood T, Schwemmle M, Pannhorst K, Wendt L et al (2021) A Genome-Wide CRISPR/Cas9 Screen Reveals the Requirement of Host Sphingomyelin Synthase 1 for Infection with Pseudorabies Virus Mutant gD(-)Pass. *Viruses* 13
204. Holtedahl K, Borgquist L, Donker GA, Buntinx F, Weller D, Campbell C, Månsson J, Hammersley V, Braaten T, Parajuli R (2021) Symptoms and signs of colorectal cancer, with differences between proximal and distal colon cancer: a prospective cohort study of diagnostic accuracy in primary care. *BMC family practice* 22: 148
205. Hopker A, Pandey N, Bartholomew R, Blanton A, Hopker S, Dhamorikar A, Goswami J, Marsland R, Metha P, Sargison N (2021) Livestock vaccination programme participation among smallholder farmers on the outskirts of National Parks and Tiger Reserves in the Indian states of Madhya Pradesh and Assam. *PLoS one* 16: e0256684
206. Horner PJ, Flanagan H, Horne AW (2021) Is There a Hidden Burden of Disease as a Result of Epigenetic Epithelial-to-Mesenchymal Transition Following Chlamydia trachomatis Genital Tract Infection? *J Infect Dis* 224: S128-s136
207. Hoyle DV, Keith M, Williamson H, Macleod K, Mathie H, Handel I, Currie C, Holmes A, Allison L, McLean R et al (2021) Prevalence and Epidemiology of Non-O157 Escherichia coli Serogroups O26, O103, O111, and O145 and Shiga Toxin Gene Carriage in Scottish Cattle, 2014-2015. *Applied and environmental microbiology* 87
208. Huang W, Dicks KL, Ballingall KT, Johnston SE, Sparks AM, Watt K, Pilkington JG, Pemberton JM (2021a) Associations between MHC class II variation and phenotypic traits in a free-living sheep population. *Mol Ecol* 31: 902-915
209. Huang W, Pemberton JM (2021) Within-trio tests provide little support for post-copulatory selection on major histocompatibility complex haplotypes in a free-living population. *Proc Biol Sci* 288: 20202862
210. Huang W, Pilkington JG, Pemberton JM (2021b) Patterns of MHC-dependent sexual selection in a free-living population of sheep. *Mol Ecol* 30: 6733-6742
211. Hullegie S, Venekamp RP, van Dongen TMA, Mulder S, van Schaik W, de Wit GA, Hay AD, Little P, Moore MV, Sanders EAM et al (2021) Topical or oral antibiotics for children with acute otitis media presenting with ear discharge: study protocol of a randomised controlled non-inferiority trial. *BMJ open* 11: e052128
212. Humphries DC, O'Connor RA, Larocque D, Chabaud-Riou M, Dhaliwal K, Pavot V (2021) Pulmonary-Resident Memory Lymphocytes: Pivotal Orchestrators of Local Immunity Against Respiratory Infections. *Front Immunol* 12: 738955
213. Huson KM, Atcheson E, Oliver NAM, Best P, Barley JP, Hanna REB, McNeilly TN, Fang Y, Haldenby S, Paterson S et al (2021) Transcriptome and Secretome Analysis of Intra-Mammalian Life-Stages of Calicophoron daubneyi Reveals Adaptation to a Unique Host Environment. *Mol Cell Proteomics* 20: 100055



214. Iftekhar EN, Priesemann V, Balling R, Bauer S, Beutels P, Calero Valdez A, Cuschieri S, Czypionka T, Dumpis U, Glaab E *et al* (2021) A look into the future of the COVID-19 pandemic in Europe: an expert consultation. *Lancet Reg Health Eur*: 100185
215. Initiative C-HG (2021) Mapping the human genetic architecture of COVID-19. *Nature* 600: 472-477
216. Inkster T, Peters C, Seagar AL, Holden MTG, Laurenson IF (2021) Investigation of two cases of Mycobacterium chelonae infection in haemato-oncology patients using whole-genome sequencing and a potential link to the hospital water supply. *The Journal of hospital infection* 114: 111-116
217. Iosub IA, Marchioreto M, van Nues RW, McKellar S, Viero G, Granneman S (2021) The mRNA derived MalH sRNA contributes to alternative carbon source utilization by tuning maltoporin expression in *E. coli*. *RNA biology* 18: 914-931
218. Irving McGrath J, Zhang W, Hollar R, Collings A, Powell R, Foale RD, Thurley N, Brockman JA, Mellanby RJ, Gunn-Moore DA *et al* (2021) More Than a Moggy; A Population Genetics Analysis of the United Kingdom's Non-Pedigree Cats. *Genes* 12: 1619
219. Islam MS, Huq S, Ahmed S, Roy S, Schwarze J, Sheikh A, Saha SK, Cunningham S, Nair H (2021) Operational definitions of paediatric asthma used in epidemiological studies: A systematic review. *J Glob Health* 11: 04032
220. Jackson B, Boni MF, Bull MJ, Colleran A, Colquhoun RM, Darby AC, Haldenby S, Hill V, Lucaci A, McCrone JT *et al* (2021a) Generation and transmission of interlineage recombinants in the SARS-CoV-2 pandemic. *Cell* 184: 5179-5188
221. Jackson M, Kavoussanakis K, Wallace EWJ (2021b) Using prototyping to choose a bioinformatics workflow management system. *PLoS computational biology* 17: e1008622
222. Jalali MS, DiGennaro C, Sridhar D (2021) The need for a prediction model assessment framework - Authors' reply. *The Lancet Global health* 9: e405
223. Jenkins SJ, Allen JE (2021) The expanding world of tissue-resident macrophages. *European journal of immunology* 51: 1882-1896
224. Jewell PD, Bramham K, Galloway J, Post F, Norton S, Teo J, Fisher R, Saha R, Hutchings S, Hopkins P *et al* (2021) Correction to: COVID-19-related acute kidney injury; incidence, risk factors and outcomes in a large UK cohort. *BMC Nephrol* 22: 403
225. Jin YH, Robledo D, Hickey JM, McGrew MJ, Houston RD (2021) Surrogate broodstock to enhance biotechnology research and applications in aquaculture. *Biotechnology advances* 49: 107756
226. Johnson EK, Sylte D, Chaves SS, Li Y, Mahe C, Nair H, Paget J, van Pomeren T, Shi T, Viboud C *et al* (2021) Hospital utilization rates for influenza and RSV: a novel approach and critical assessment. *Popul Health Metr* 19: 31
227. Johnson N, Philip N (2021) Beyond phosphorylation: Putative roles of post-translational modifications in Plasmodium sexual stages. *Mol Biochem Parasitol* 245: 111406
228. Jones CE, Tan WS, Grey F, Hughes DJ (2021) Discovering antiviral restriction factors and pathways using genetic screens. *J Gen Virol* 102: 001603
229. Jones CM, Welburn SC (2021) Leishmaniasis Beyond East Africa. *Frontiers in veterinary science* 8: 618766
230. Kakooza S, Muwonge A, Nabatta E, Eneku W, Ndoboli D, Wampande E, Munyirwa D, Kayaga E, Tumwebaze MA, Afayaoa M *et al* (2021) A retrospective analysis of antimicrobial resistance in pathogenic Escherichia coli and Salmonella spp. isolates from poultry in Uganda. *Int J Vet Sci Med* 9: 11-21
231. Kapoor SS, Zaiss DMW (2021) Emerging Role of EGFR Mutations in Creating an Immune Suppressive Tumour Microenvironment. *Biomedicines* 10
232. Kapun M, Nunez JCB, Bogaerts-Márquez M, Murga-Moreno J, Paris M, Outten J, Coronado-Zamora M, Tern C, Rota-Stabelli O, Guerreiro MPG *et al* (2021) Drosophila Evolution over Space and Time (DEST): A New Population Genomics Resource. *Mol Biol Evol* 38: 5782-5805
233. Karat AS, Jones ASK, Abubakar I, Campbell CNJ, Clarke AL, Clarke CS, Darvell M, Hill AT, Horne R, Kunst H *et al* (2021) "You have to change your whole life": A qualitative study of the dynamics of treatment adherence among adults with tuberculosis in the United Kingdom. *J Clin Tuberc Other Mycobact Dis* 23: 100233



234. Kasozi KI, Welburn SC, Batiha GE, Marraiki N, Nalumensa DP, Namayanja M, Matama K, Zalwango KK, Matovu W, Zirintunda G *et al* (2021a) Molecular epidemiology of anaplasmosis in small ruminants along a human-livestock-wildlife interface in Uganda. *Heliyon* 7: e05688
235. Kasozi KI, Zirintunda G, Ssempejja F, Buyinza B, Alzahrani KJ, Matama K, Nakimbugwe HN, Alkazmi L, Onanyang D, Bogere P *et al* (2021b) Epidemiology of Trypanosomiasis in Wildlife-Implications for Humans at the Wildlife Interface in Africa. *Frontiers in veterinary science* 8: 621699
236. Kateete DP, Mbabazi MM, Nakazzi F, Katabazi FA, Kigozi E, Ssengooba W, Nakiyingi L, Namiiro S, Okwera A, Joloba ML *et al* (2021) Sputum microbiota profiles of treatment-naïve TB patients in Uganda before and during first-line therapy. *Sci Rep* 11: 24486
237. Kaveh A, Bruton FA, Oremek MEM, Tucker CS, Taylor JM, Mullins JJ, Rossi AG, Denvir MA (2021) Selective CDK9 inhibition resolves neutrophilic inflammation and enhances cardiac regeneration in larval zebrafish. *Development (Cambridge, England)* 149: dev199636
238. Kawade A, Gore M, Lele P, Chavan U, Pinnock H, Smith P, Juvekar S (2021) Interplaying role of healthcare activist and homemaker: a mixed-methods exploration of the workload of community health workers (Accredited Social Health Activists) in India. *Hum Resour Health* 19: 7
239. Kayondo HW, Ssekagiri A, Nabakooza G, Bbosa N, Ssemwanga D, Kaleebu P, Mwalili S, Mango JM, Leigh Brown AJ, Saenz RA *et al* (2021) Employing phylogenetic tree shape statistics to resolve the underlying host population structure. *BMC bioinformatics* 22: 546
240. Keita AK, Koundouno FR, Faye M, Düx A, Hinzmann J, Diallo H, Ayouba A, Le Marcis F, Soropogui B, Ifono K *et al* (2021) Resurgence of Ebola virus in 2021 in Guinea suggests a new paradigm for outbreaks. *Nature* 597: 539-543
241. Kelly RF, Evans M, Sargison ND (2021a) Identifying knowledge gaps in Moniezia expansa epidemiology: a report of a small intestinal torsion in a 5-week-old lamb. *New Zealand veterinary journal* 69: 186-189
242. Kelly RF, Jennings A, Hunt J, Hamman SM, Mazeri S, Nkongho EF, Ngwa VN, Tanya V, Sander M, Ndip L *et al* (2021b) The epidemiology of bacterial zoonoses in pastoral and dairy cattle in Cameroon, Central Africa. *Zoonoses and public health* 68: 781-793
243. Khan MA, Afshan K, Nazar M, Firasat S, Chaudhry U, Sargison ND (2021) Molecular confirmation of Dicrocoelium dendriticum in the Himalayan ranges of Pakistan. *Parasitol Int* 81: 102276
244. Kim S, Williams TC, Viboud C, Campbell H, Chen J, Spiro DJ (2021) RSV genomic diversity and the development of a globally effective RSV intervention. *Vaccine* 39: 2811-2820
245. Kirkwood M, Vohra P, Bawn M, Thilliez G, Pye H, Tanner J, Chintoan-Uta C, Branchu P, Petrovska L, Dallman T *et al* (2021) Ecological niche adaptation of *Salmonella Typhimurium* U288 is associated with altered pathogenicity and reduced zoonotic potential. *Communications biology* 4: 498
246. Kirolos A, Blacow RM, Parajuli A, Welton NJ, Khanna A, Allen SJ, McAllister DA, Campbell H, Nair H (2021) The impact of childhood malnutrition on mortality from pneumonia: a systematic review and network meta-analysis. *BMJ global health* 6: e007411
247. Klaric L, Gisby JS, Papadaki A, Muckian MD, Macdonald-Dunlop E, Zhao JH, Tokolyi A, Persyn E, Pairo-Castineira E, Morris AP *et al* (2021) Mendelian randomisation identifies alternative splicing of the FAS death receptor as a mediator of severe COVID-19. *medRxiv*
248. Klimek L, Jutel M, Akdis CA, Bousquet J, Akdis M, Torres MJ, Agache I, Canonica GW, Del Giacco S, O'Mahony L *et al* (2021) ARIA-EAACI statement on severe allergic reactions to COVID-19 vaccines - An EAACI-ARIA Position Paper. *Allergy* 76: 1624-1628
249. Knight MA, White PCL, Hutchings MR, Davidson RS, Marion G (2021a) Generative models of network dynamics provide insight into the effects of trade on endemic livestock disease. *R Soc Open Sci* 8: 201715
250. Knight SR, Gupta RK, Ho A, Pius R, Buchan I, Carson G, Drake TM, Dunning J, Fairfield CJ, Gamble C *et al* (2021b) Prospective validation of the 4C prognostic models for adults hospitalised with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol. *Thorax* 77: 606-615
251. Koenen MH, Bosma M, Roorda UA, Wopereis FM, Roos A, van der Vries E, Bogaert D, Sanders EA, Boes M, Heidema J *et al* (2021) A novel method to standardise serum IgA measurements shows an increased



- prevalence of IgA deficiency in young children with recurrent respiratory tract infections. *Clinical & translational immunology* 10: e1344
252. Kolbert Z, Lindermayr C, Loake GJ (2021) The role of nitric oxide in plant biology: current insights and future perspectives. *Journal of experimental botany* 72: 777-780
253. Konings F, Perkins MD, Kuhn JH, Pallen MJ, Alm EJ, Archer BN, Barakat A, Bedford T, Bhiman JN, Caly L et al (2021) SARS-CoV-2 Variants of Interest and Concern naming scheme conducive for global discourse. *Nature microbiology* 6: 821-823
254. Kosmicki JA, Horowitz JE, Banerjee N, Lanche R, Marcketta A, Maxwell E, Bai X, Sun D, Backman JD, Sharma D et al (2021a) A catalog of associations between rare coding variants and COVID-19 outcomes. *medRxiv*
255. Kosmicki JA, Horowitz JE, Banerjee N, Lanche R, Marcketta A, Maxwell E, Bai X, Sun D, Backman JD, Sharma D et al (2021b) Pan-ancestry exome-wide association analyses of COVID-19 outcomes in 586,157 individuals. *American journal of human genetics* 108: 1350-1355
256. Kraberger S, Oprissnig T, Celar V, Maggi F, Okamoto H, Blomström AL, Cadar D, Harrach B, Biagini P, Varsani A (2021) Taxonomic updates for the genus Gyrovirus (family Anelloviridae): recognition of several new members and establishment of species demarcation criteria. *Archives of virology* 166: 2937-2942
257. Kraemer M, McCrone J, Hill V, Bajaj S, Evans-Pena R, Lambert B, Inward R, Bhatt S, Volz E, Ruis C et al (2021a) Context-specific emergence and growth of the SARS-CoV-2 Delta variant. *Res Sq*
258. Kraemer MUG, Hill V, Ruis C, Dellicour S, Bajaj S, McCrone JT, Baele G, Parag KV, Battle AL, Gutierrez B et al (2021b) Spatiotemporal invasion dynamics of SARS-CoV-2 lineage B.1.1.7 emergence. *Science* 373: 889-895
259. Kraemer MUG, Pybus OG, Fraser C, Cauchemez S, Rambaut A, Cowling BJ (2021c) Monitoring key epidemiological parameters of SARS-CoV-2 transmission. *Nature medicine* 27: 1854-1855
260. Kramer S, Meyer-Natus E, Stigloher C, Thoma H, Schnaufer A, Engstler M (2021) Parallel monitoring of RNA abundance, localization and compactness with correlative single molecule FISH on LR White embedded samples. *Nucleic Acids Res* 49: e14
261. Krasnopeeva E, Barboza-Perez UE, Rosko J, Pilizota T, Lo CJ (2021) Bacterial flagellar motor as a multimodal biosensor. *Methods (San Diego, Calif)* 193: 5-15
262. Kristensen MI, de Winter-de Groot KM, Berkers G, Chu M, Arp K, Ghijssen S, Heijerman HGM, Arets HGM, Majoor CJ, Janssens HM et al (2021) Individual and Group Response of Treatment with Ivacaftor on Airway and Gut Microbiota in People with CF and a S1251N Mutation. *J Pers Med* 11: 350
263. Kvaskoff M, Mahamat-Saleh Y, Farland LV, Shigesi N, Terry KL, Harris HR, Roman H, Becker CM, As-Sanie S, Zondervan KT et al (2021) Endometriosis and cancer: a systematic review and meta-analysis. *Human reproduction update* 27: 393-420
264. Lafond KE, Porter RM, Whaley MJ, Suizan Z, Ran Z, Aleem MA, Thapa B, Sar B, Proschle VS, Peng Z et al (2021) Global burden of influenza-associated lower respiratory tract infections and hospitalizations among adults: A systematic review and meta-analysis. *PLoS Med* 18: e1003550
265. Le D, Krasnopeeva E, Sinjab F, Pilizota T, Kim M (2021) Active Efflux Leads to Heterogeneous Dissipation of Proton Motive Force by Protonophores in Bacteria. *mBio* 12: e0067621
266. Leclerc QJ, Fuller NM, Keogh RH, Diaz-Ordaz K, Sekula R, Semple MG, Atkins KE, Procter SR, Knight GM (2021) Importance of patient bed pathways and length of stay differences in predicting COVID-19 hospital bed occupancy in England. *BMC health services research* 21: 566
267. Lee JS, Lacerda EM, Nacul L, Kingdon CC, Norris J, O'Boyle S, Roberts CH, Palla L, Riley EM, Cliff JM (2021a) Salivary DNA Loads for Human Herpesviruses 6 and 7 Are Correlated With Disease Phenotype in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome. *Front Med (Lausanne)* 8: 656692
268. Lee KK, Doudesis D, Ross DA, Bularga A, MacKintosh CL, Koch O, Johannessen I, Templeton K, Jenks S, Chapman AR et al (2021b) Diagnostic performance of the combined nasal and throat swab in patients admitted to hospital with suspected COVID-19. *BMC Infect Dis* 21: 318



269. Lemaître JF, Carbilliet J, Rey B, Palme R, Froy H, Wilbourn RV, Underwood SL, Cheynel L, Gaillard JM, Hewison AJM *et al* (2021) Short-term telomere dynamics is associated with glucocorticoid levels in wild populations of roe deer. *Comp Biochem Physiol A Mol Integr Physiol* 252: 110836
270. Lemuel AM, Usman IM, Kasozi KI, Alghamdi S, Aigbogun EO, Archibong V, Ssebuufu R, Kabanyoro A, Ifie JE, Swase DT *et al* (2021) COVID-19-Related Mental Health Burdens: Impact of Educational Level and Relationship Status Among Low-Income Earners of Western Uganda. *Front Public Health* 9: 739270
271. Leow HW, Koscielniak M, Williams L, Saunders PTK, Daniels J, Doust AM, Jones MC, Ferguson GD, Bagger Y, Horne AW *et al* (2021) Dichloroacetate as a possible treatment for endometriosis-associated pain: a single-arm open-label exploratory clinical trial (EPiC). *Pilot and feasibility studies* 7: 67
272. Li JY, Hu WQ, Liu TN, Zhang HH, Opiressnig T, Xiao CT (2021a) Isolation and evolutionary analyses of gout-associated goose astrovirus causing disease in experimentally infected chickens. *Poultry science* 100: 543-552
273. Li Y, Campbell H, Kulkarni D, Harpur A, Nundy M, Wang X, Nair H (2021b) The temporal association of introducing and lifting non-pharmaceutical interventions with the time-varying reproduction number (R) of SARS-CoV-2: a modelling study across 131 countries. *The Lancet Infectious diseases* 21: 193-202
274. Li Y, Hodgson D, Wang X, Atkins KE, Feikin DR, Nair H (2021c) Respiratory syncytial virus seasonality and prevention strategy planning for passive immunisation of infants in low-income and middle-income countries: a modelling study. *The Lancet Infectious diseases* 21: 1303-1312
275. Li Y, Johnson EK, Shi T, Campbell H, Chaves SS, Commaille-Chapus C, Dighero I, James SL, Mahé C, Ooi Y *et al* (2021d) National burden estimates of hospitalisations for acute lower respiratory infections due to respiratory syncytial virus in young children in 2019 among 58 countries: a modelling study. *The Lancet Respiratory medicine* 9: 175-185
276. Li Y, Wang X, Campbell H, Nair H (2021e) The association of community mobility with the time-varying reproduction number (R) of SARS-CoV-2: a modelling study across 330 local UK authorities. *Lancet Digit Health* 3: e676-e683
277. Li Y, Wang X, Msosa T, de Wit F, Murdock J, Nair H (2021f) The impact of the 2009 influenza pandemic on the seasonality of human respiratory syncytial virus: A systematic analysis. *Influenza and other respiratory viruses* 15: 804-812
278. Lin GL, Drysdale SB, Snape MD, O'Connor D, Brown A, MacIntyre-Cockett G, Mellado-Gomez E, de Cesare M, Bonsall D, Ansari MA *et al* (2021a) Distinct patterns of within-host virus populations between two subgroups of human respiratory syncytial virus. *Nat Commun* 12: 5125
279. Lin YT, Chau LF, Coutts H, Mahmoudi M, Drampa V, Lee CH, Brown A, Hughes DJ, Grey F (2021b) Does the Zinc Finger Antiviral Protein (ZAP) Shape the Evolution of Herpesvirus Genomes? *Viruses* 13: 1857
280. Linssen RS, Teirlinck AC, van Boven M, Biarent D, Stona L, Amigoni A, Comoretto RI, Leteurtre S, Bruandet A, Bentsen GK *et al* (2021a) Increasing burden of viral bronchiolitis in the pediatric intensive care unit; an observational study. *J Crit Care* 68: 165-168
281. Linssen RS, van Woensel JBM, Bont L, Recher M, Campbell H, Ralston SL, Bem RA (2021b) Are changes in practice a cause of the rising burden of bronchiolitis for paediatric intensive care units? *The Lancet Respiratory medicine* 9: 1094-1096
282. Lisowski ZM, Lefevre L, Mair TS, Clark EL, Hudson NPH, Hume DA, Pirie RS (2021) Use of quantitative real-time PCR to determine the local inflammatory response in the intestinal mucosa and muscularis of horses undergoing small intestinal resection. *Equine veterinary journal* 54: 52-62
283. Liu Y, Ling L, Wong SH, Wang MH, Fitzgerald JR, Zou X, Fang S, Liu X, Wang X, Hu W *et al* (2021) Outcomes of respiratory viral-bacterial co-infection in adult hospitalized patients. *EClinicalMedicine* 37: 100955
284. Livingstone M, Wattegedera SR, Palarea-Albaladejo J, Aitchison K, Corbett C, Sait M, Wilson K, Chianini F, Rocchi MS, Wheelhouse N *et al* (2021) Efficacy of Two Chlamydia abortus Subcellular Vaccines in a Pregnant Ewe Challenge Model for Ovine Enzootic Abortion. *Vaccines* 9: 898
285. Lodzińska J, Munro E, Shaw DJ, Suñol A (2021) MRI of the optic nerve sheath and globe in cats with and without presumed intracranial hypertension. *Journal of feline medicine and surgery* 23: 751-758



286. Loebinger MR, Polverino E, Chalmers JD, Tiddens H, Goossens H, Tunney M, Ringshausen FC, Hill AT, Pathan R, Angyalosi G *et al* (2021) Efficacy and safety of TOBI Podhaler in Pseudomonas aeruginosa-infected bronchiectasis patients: iBEST study. *The European respiratory journal* 57
287. Lokken-Toyli KL, de Steenhuijsen Piters WAA, Zangari T, Martel R, Kuipers K, Shopsin B, Loomis C, Bogaert D, Weiser JN (2021) Decreased production of epithelial-derived antimicrobial molecules at mucosal barriers during early life. *Mucosal immunology* 14: 1358-1368
288. Loosli K, Davis A, Muwonge A, Lembo T (2021) Addressing antimicrobial resistance by improving access and quality of care-A review of the literature from East Africa. *PLoS Negl Trop Dis* 15: e0009529
289. López-Cortegano E, Craig RJ, Chebib J, Samuels T, Morgan AD, Kraemer SA, Böndel KB, Ness RW, Colegrave N, Keightley PD (2021) De Novo Mutation Rate Variation and Its Determinants in Chlamydomonas. *Mol Biol Evol* 38: 3709-3723
290. Lopreside A, Montali L, Wang B, Tassoni A, Ferri M, Calabretta MM, Michelini E (2021) Orthogonal paper biosensor for mercury(II) combining bioluminescence and colorimetric smartphone detection. *Biosensors & bioelectronics* 194: 113569
291. Louwe PA, Badiola Gomez L, Webster H, Perona-Wright G, Bain CC, Forbes SJ, Jenkins SJ (2021) Recruited macrophages that colonize the post-inflammatory peritoneal niche convert into functionally divergent resident cells. *Nat Commun* 12: 1770
292. Löwensteyn YN, Mazur NI, Nair H, Willemsen JE, van Thiel G, Bont L (2021) Describing global pediatric RSV disease at intensive care units in GAVI-eligible countries using molecular point-of-care diagnostics: the RSV GOLD-III study protocol. *BMC Infect Dis* 21: 857
293. Lu G, Razum O, Jahn A, Zhang Y, Sutton B, Sridhar D, Ariyoshi K, von Seidlein L, Müller O (2021a) COVID-19 in Germany and China: mitigation versus elimination strategy. *Glob Health Action* 14: 1875601
294. Lu L, Lycett S, Ashworth J, Mutapi F, Woolhouse M (2021b) What are SARS-CoV-2 genomes from the WHO Africa region member states telling us? *BMJ global health* 6
295. Lubega J, Umbreen S, Loake GJ (2021) Recent advances in the regulation of plant immunity by S-nitrosylation. *Journal of experimental botany* 72: 864-872
296. Lupolova N, Chalka A, Gally DL (2021) Predicting Host Association for Shiga Toxin-Producing *E. coli* Serogroups by Machine Learning. *Methods in molecular biology (Clifton, NJ)* 2291: 99-117
297. Machín C, Corripio-Miyar Y, Hernández JN, Pérez-Hernández T, Hayward AD, Wright HW, Price DRG, Matthews JB, McNeilly TN, Nisbet AJ *et al* (2021) Cellular and humoral immune responses associated with protection in sheep vaccinated against *Teladorsagia circumcincta*. *Vet Res* 52: 89
298. Magalhaes MS, Smith P, Portman JR, Jackson-Jones LH, Bain CC, Ramachandran P, Michalidou Z, Stimson RH, Dweck MR, Denby L *et al* (2021) Role of Tim4 in the regulation of ABCA1(+) adipose tissue macrophages and post-prandial cholesterol levels. *Nat Commun* 12: 4434
299. Mair I, McNeilly TN, Corripio-Miyar Y, Forman R, Else KJ (2021) Embracing nature's complexity: Immunoparasitology in the wild. *Semin Immunol* 53: 101525
300. Makau MC, Powell J, Prendergast J, de Laté PL, Morrison LJ, Fisch A, Gathura P, Kitala P, Connelley T, Toye P (2021) Corrigendum to "Inverted CD4+/CD8+T cell ratio in Boran (*Bos indicus*) cattle" [Vet. Immunol. Immunopathol. 230 110126]. *Vet Immunol Immunopathol*: 110219
301. Malouli D, Hansen SG, Hancock MH, Hughes CM, Ford JC, Gilbride RM, Ventura AB, Morrow D, Randall KT, Taher H *et al* (2021) Cytomegaloviral determinants of CD8(+) T cell programming and RhCMV/SIV vaccine efficacy. *Science immunology*
302. Manda-Taylor L, Umar E, Stewart RC, Kufankomwe M, Chorwe-Sungani G, Mwale OC, Kokota D, Nyirenda J, Kulisewa K, Pickersgill M (2021) Developing Biopsychosocial Research on Maternal Mental Health in Malawi: Community Perspectives and Concerns. *Ethics Hum Res* 43: 11-19
303. Marangio P, Law KYT, Sanguinetti G, Granneman S (2021) diffBUM-HMM: a robust statistical modeling approach for detecting RNA flexibility changes in high-throughput structure probing data. *Genome Biol* 22: 165



304. Marciniak SJ, Farrell J, Rostron A, Smith I, Openshaw PJM, Baillie JK, Doherty A, Semple MG (2021) COVID-19 Pneumothorax in the United Kingdom: a prospective observational study using the ISARIC WHO clinical characterisation protocol. *The European respiratory journal* 58: 2100929
305. Marden E, Abbott RJ, Austerlitz F, Ortiz-Barrientos D, Baucom RS, Bongaerts P, Bonin A, Bonneau C, Browne L, Alex Buerkle C et al (2021) Sharing and reporting benefits from biodiversity research. *Mol Ecol* 30: 1103-1107
306. Marsland R, Staples J (2021) Diversifying Medical Anthropology. *Medical anthropology* 40: 1-2
307. Marwick JA, Elliott RJR, Longden J, Makda A, Hirani N, Dhaliwal K, Dawson JC, Carragher NO (2021) Application of a High-Content Screening Assay Utilizing Primary Human Lung Fibroblasts to Identify Antifibrotic Drugs for Rapid Repurposing in COVID-19 Patients. *SLAS Discov*: 24725552211019405
308. Marzo S, Gray M, Loh W, Waddell LA, McGuinness CI, Hope JC, Mathie HA (2021) Characterisation of dendritic cell frequency and phenotype in bovine afferent lymph reveals kinetic changes in costimulatory molecule expression. *Vet Immunol Immunopathol* 243: 110363
309. Maslove DM, Baillie JK (2021) Two Key Takeaways From a Year of Pandemic Research. *Critical care medicine* 49: 1223-1226
310. Matthews KR (2021) Trypanosome Signaling-Quorum Sensing. *Annual review of microbiology* 75: 495-514
311. Mauri M, Sannasiddappa TH, Vohra P, Corona-Torres R, Smith AA, Chintoan-Uta C, Bremner A, Terra VS, Abouelhadid S, Stevens MP et al (2021) Multivalent poultry vaccine development using Protein Glycan Coupling Technology. *Microb Cell Fact* 20: 193
312. McCowan J, Fercoq F, Kirkwood PM, T'Jonck W, Hegarty LM, Mawer CM, Cunningham R, Mirchandani AS, Hoy A, Humphries DC et al (2021) The transcription factor EGR2 is indispensable for tissue-specific imprinting of alveolar macrophages in health and tissue repair. *Science immunology* 6: eabj2132
313. McCracken IR, Saginc G, He L, Huseynov A, Daniels A, Fletcher S, Peghaire C, Kalna V, Andalousi-Mae M, Muhl L et al (2021) Lack of Evidence of Angiotensin-Converting Enzyme 2 Expression and Replicative Infection by SARS-CoV-2 in Human Endothelial Cells. *Circulation* 143: 865-868
314. McCrone JT, Hill V, Bajaj S, Pena RE, Lambert BC, Inward R, Bhatt S, Volz E, Ruis C, Dellicour S et al (2021) Context-specific emergence and growth of the SARS-CoV-2 Delta variant. *medRxiv*
315. McFarlane SE, Senn HV, Smith SL, Pemberton JM (2021) Locus-specific introgression in young hybrid swarms: Drift may dominate selection. *Mol Ecol* 30: 2104-2115
316. McGinley J, Thwaites R, Brebner W, Greenan-Barrett L, Aerssens J, Öner D, Bont L, Wildenbeest J, Martinón-Torres F, Nair H et al (2021) A Systematic Review and Meta-analysis of Animal Studies Investigating the Relationship Between Serum Antibody, T Lymphocytes, and Respiratory Syncytial Virus Disease. *J Infect Dis*
317. McNae IW, Kinhead J, Malik D, Yen LH, Walker MK, Swain C, Webster SP, Gray N, Fernandes PM, Myburgh E et al (2021) Fast acting allosteric phosphofructokinase inhibitors block trypanosome glycolysis and cure acute African trypanosomiasis in mice. *Nat Commun* 12: 1052
318. Melero-Jiménez IJ, Flores-Moya A, Collins S (2021) The role of changes in environmental quality in multitrait plastic responses to environmental and social change in the model microalga *Chlamydomonas reinhardtii*. *Ecology and evolution* 11: 1888-1901
319. Melville LA, Hayward A, Morgan ER, Shaw DJ, McBean D, Andrews L, Morrison A, Kenyon F (2021) Precision worm control in grazing lambs by targeting group treatment based on performance of sentinels. *Animal* 15: 100176
320. Menden-Deuer S, Rowlett J, Nursultanov M, Collins S, Ryneanson T (2021) Biodiversity of marine microbes is safeguarded by phenotypic heterogeneity in ecological traits. *PloS one* 16: e0254799
321. Meng LS, Bao QX, Mu XR, Tong C, Cao XY, Huang JJ, Xue LN, Liu CY, Fei Y, Loake GJ (2021) Glucose- and sucrose-signaling modules regulate the *Arabidopsis* juvenile-to-adult phase transition. *Cell reports* 36: 109348
322. Mills B, Megia-Fernandez A, Norberg D, Duncan S, Marshall A, Akram AR, Quinn T, Young I, Bruce AM, Scholefield E et al (2021) Molecular detection of Gram-positive bacteria in the human lung through an optical fiber-based endoscope. *Eur J Nucl Med Mol Imaging* 48: 800-807



323. Milne K, Ivens A, Reid AJ, Lotkowska ME, O'Toole A, Sankaranarayanan G, Munoz Sandoval D, Nahrendorf W, Regnault C, Edwards NJ *et al* (2021) Mapping immune variation and var gene switching in naive hosts infected with Plasmodium falciparum. *eLife* 10
324. Minassian AM, Themistocleous Y, Silk SE, Barrett JR, Kemp A, Quinkert D, Nielsen CM, Edwards NJ, Rawlinson TA, Ramos Lopez F *et al* (2021) Controlled human malaria infection with a clone of Plasmodium vivax with high-quality genome assembly. *JCI insight* 6
325. Minns D, Smith KJ, Alessandrini V, Hardisty G, Melrose L, Jackson-Jones L, MacDonald AS, Davidson DJ, Gwyer Findlay E (2021a) The neutrophil antimicrobial peptide cathelicidin promotes Th17 differentiation. *Nat Commun* 12: 1285
326. Minns D, Smith KJ, Hardisty G, Rossi AG, Gwyer Findlay E (2021b) The Outcome of Neutrophil-T Cell Contact Differs Depending on Activation Status of Both Cell Types. *Front Immunol* 12: 633486
327. Missmer SA, Tu FF, Agarwal SK, Chapron C, Soliman AM, Chiuve S, Eichner S, Flores-Caldera I, Horne AW, Kimball AB *et al* (2021) Impact of Endometriosis on Life-Course Potential: A Narrative Review. *Int J Gen Med* 14: 9-25
328. Mitchell JL, Del Pozo J, Woolley CSC, Dheendsa R, Hope JC, Gunn-Moore DA (2021a) Histological and immunohistochemical features suggesting aetiiological differences in lymph node and (muco)cutaneous feline tuberculosis lesions. *The Journal of small animal practice* 63: 174-187
329. Mitchell JL, O'Halloran C, Stanley P, McDonald K, Burr P, Gunn-Moore DA, Hope JC (2021b) Serial Interferon-Gamma Release Assay (IGRA) Testing to Monitor Treatment Responses in Cases of Feline Mycobacteriosis. *Pathogens (Basel, Switzerland)* 10
330. Mitchell JL, Raper A, Gunn-Moore DA, Hope JC (2021c) Recognition of recombinant interferon-gamma from Felidae species by anti-cat antibodies. *Vet Immunol Immunopathol* 241: 110327
331. Mitchell JL, Stanley P, McDonald K, Burr P, Rhodes SG, Gunn-Moore DA, Hope JC (2021d) Diagnostic accuracy of the interferon-gamma release assay (IGRA) for cases of feline mycobacteriosis. *Preventive veterinary medicine* 193: 105409
332. Moraleda CP, Robledo D, Gutiérrez AP, Del-Pozo J, Yáñez JM, Houston RD (2021) Investigating mechanisms underlying genetic resistance to Salmon Rickettsial Syndrome in Atlantic salmon using RNA sequencing. *BMC genomics* 22: 156
333. Morgan ALK, Woolhouse MEJ, Medley GF, van Bunnik BAD (2021) Optimizing time-limited non-pharmaceutical interventions for COVID-19 outbreak control. *Philos Trans R Soc Lond B Biol Sci* 376: 20200282
334. Morrison AA, Chaudhry U, Andrews L, Melville L, Doyle SR, Sargison ND, Bartley DJ (2021) Phenotypic and genotypic analysis of benzimidazole resistance in reciprocal genetic crosses of *Haemonchus contortus*. *International journal for parasitology Drugs and drug resistance* 18: 1-11
335. Moubarak M, Kasozi KI, Hetta HF, Shaheen HM, Rauf A, Al-Kuraishi HM, Qusti S, Alshammari EM, Ayikobua ET, Ssempijja F *et al* (2021) The Rise of SARS-CoV-2 Variants and the Role of Convalescent Plasma Therapy for Management of Infections. *Life (Basel)* 11: 734
336. Mowat AM, Bain CC (2021) Guardians of the epithelium: macrophages protect against toxic fungal derivatives. *Mucosal immunology* 14: 542-543
337. Mugenyi A, Muhangizi D, Hendrickx G, Nicolas G, Waiswa C, Torr S, Welburn SC, Atkinson PM (2021) Spatial analysis of *G.fuscipes* abundance in Uganda using Poisson and Zero-Inflated Poisson regression models. *PLoS Negl Trop Dis* 15: e0009820
338. Mühr LSA, Guerendiain D, Cuschieri K, Sundström K (2021) Human Papillomavirus Detection by Whole-Genome Next-Generation Sequencing: Importance of Validation and Quality Assurance Procedures. *Viruses* 13: 1323
339. Mulholland RH, Vasileiou E, Simpson CR, Robertson C, Ritchie LD, Agrawal U, Woolhouse M, Murray JK, Stagg HR, Docherty AB *et al* (2021) Cohort profile: Early pandemic evaluation and enhanced surveillance of COVID-19 (EAVE II) database. *International journal of epidemiology* 50: 1064-1074
340. Mun BG, Kim HH, Yuk HJ, Hussain A, Loake GJ, Yun BW (2021) A Potential Role of Coumestrol in Soybean Leaf Senescence and Its Interaction With Phytohormones. *Frontiers in plant science* 12: 756308



341. Mutapi F, Pfavayi L, Osakunor D, Lim R, Kasambala M, Mutemeru A, Rusakaniko S, Chibanda D, Mduluza T (2021) Assessing early child development and its association with stunting and schistosome infections in rural Zimbabwean children using the Griffiths Scales of Child Development. *PLoS Negl Trop Dis* 15: e0009660
342. Muwonge A, Karuppannan AK, Opiressnig T (2021) Probiotics mediated gut microbiota diversity shifts are associated with reduction in histopathology and shedding of *Lawsonia intracellularis*. *Anim Microbiome* 3: 22
343. Nabi RBS, Tayade R, Hussain A, Adhikari A, Lee IJ, Loake GJ, Yun BW (2021) A Novel DUF569 Gene Is a Positive Regulator of the Drought Stress Response in *Arabidopsis*. *International journal of molecular sciences* 22: 5316
344. Nahrendorf W, Ivens A, Spence PJ (2021) Inducible mechanisms of disease tolerance provide an alternative strategy of acquired immunity to malaria. *eLife* 10
345. Nair H (2021) Role of community-based cohorts for uncovering the iceberg of disease. *The Lancet Global health* 9: e740-e741
346. Nan P, Wen D, Opiressnig T, Zhang Q, Yu X, Jiang Y (2021) Novel universal primer-pentaplex PCR assay based on chimeric primers for simultaneous detection of five common pig viruses associated with diarrhea. *Molecular and cellular probes* 58: 101747
347. Nandolo W, Mészáros G, Wurzinger M, Banda LJ, Gondwe TN, Mulindwa HA, Nakimbugwe HN, Clark EL, Woodward-Greene MJ, Liu M et al (2021) Detection of copy number variants in African goats using whole genome sequence data. *BMC genomics* 22: 398
348. Nash TJ, Morris KM, Mabbott NA, Vervelde L (2021) Inside-out chicken enteroids with leukocyte component as a model to study host-pathogen interactions. *Communications biology* 4: 377
349. Nelson M, Patton A, Robb K, Weller D, Sheikh A, Ragupathy K, Morrison D, Campbell C (2021) Experiences of cervical screening participation and non-participation in women from minority ethnic populations in Scotland. *Health expectations : an international journal of public participation in health care and health policy* 24: 1459-1472
350. Newstead LL, Harris J, Goodbrand S, Varjonen K, Nuttall T, Paterson GK (2021) *Staphylococcus caledonicus* sp. nov. and *Staphylococcus canis* sp. nov. isolated from healthy domestic dogs. *Int J Syst Evol Microbiol* 71: 004878
351. Niarakis A, Kuiper M, Ostaszewski M, Malik Sheriff RS, Casals-Casas C, Thieffry D, Freeman TC, Thomas P, Touré V, Noël V et al (2021) Setting the basis of best practices and standards for curation and annotation of logical models in biology-highlights of the [BC]2 2019 CoLoMoTo/SysMod Workshop. *Brief Bioinform* 22: 1848-1859
352. Nicholls SM, Poplawski R, Bull MJ, Underwood A, Chapman M, Abu-Dahab K, Taylor B, Colquhoun RM, Rowe WPM, Jackson B et al (2021) CLIMB-COVID: continuous integration supporting decentralised sequencing for SARS-CoV-2 genomic surveillance. *Genome Biol* 22: 196
353. Nila J, Nisha P (2021) Beyond phosphorylation: putative roles of post-translational modifications in *Plasmodium* sexual stages. *Mol Biochem Parasitol*: 111406
354. Nomoto M, Skelly MJ, Itaya T, Mori T, Suzuki T, Matsushita T, Tokizawa M, Kuwata K, Mori H, Yamamoto YY et al (2021) Suppression of MYC transcription activators by the immune cofactor NPR1 fine-tunes plant immune responses. *Cell reports* 37: 110125
355. Norris T, Razieh C, Zaccardi F, Yates T, Islam N, Gillies CL, Chudasama YV, Rowlands AV, Davies MJ, McCann GP et al (2021) Impact of cardiometabolic multimorbidity and ethnicity on cardiovascular/renal complications in patients with COVID-19. *Heart*
356. O'Connor RA, Chauhan V, Mathieson L, Titmarsh H, Koppensteiner L, Young I, Tagliavini G, Dorward DA, Prost S, Dhaliwal K et al (2021) T cells drive negative feedback mechanisms in cancer associated fibroblasts, promoting expression of co-inhibitory ligands, CD73 and IL-27 in non-small cell lung cancer. *Oncoimmunology* 10: 1940675
357. O'Donnell AJ, Greischar MA, Reece SE (2021) Mistimed malaria parasites re-synchronize with host feeding-fasting rhythms by shortening the duration of intra-erythrocytic development. *Parasite immunology* 44: e12898
358. O'Donnell AJ, Reece SE (2021) Ecology of asynchronous asexual replication: the intraerythrocytic development cycle of *Plasmodium berghei* is resistant to host rhythms. *Malaria journal* 20: 105



359. O'Hare A, Balaz D, Wright DM, McCormick C, McDowell S, Trewby H, Skuce RA, Kao RR (2021) A new phylodynamic model of *Mycobacterium bovis* transmission in a multi-host system uncovers the role of the unobserved reservoir. *PLoS computational biology* 17: e1009005
360. Odeniran PO, Macleod ET, Ademola IO, Ohiolei JA, Majekodunmi AO, Welburn SC (2021a) Morphological, Molecular Identification and Distribution of Trypanosome-Transmitting Dipterans from Cattle Settlements in Southwest Nigeria. *Acta parasitologica* 66: 116-128
361. Odeniran PO, Onifade AA, MacLeod ET, Ademola IO, Alderton S, Welburn SC (2021b) Correction: Mathematical modelling and control of African animal trypanosomosis with interacting populations in West Africa-Could biting flies be important in maintaining the disease endemicity? *PLoS one* 16: e0253677
362. Okeke Ogwulu CB, Williams EV, Chu JJ, Devall AJ, Beeson LE, Hardy P, Cheed V, Yongzhong S, Jones LL, La Fontaine Papadopoulos JH et al (2021) Cost-effectiveness of mifepristone and misoprostol versus misoprostol alone for the management of missed miscarriage: an economic evaluation based on the MifeMiso trial. *BJOG : an international journal of obstetrics and gynaecology* 128: 1534-1545
363. Okello WO, Amongi CA, Muhangizi D, MacLeod ET, Waiswa C, Shaw AP, Welburn SC (2021a) Livestock Network Analysis for Rhodesiense Human African Trypanosomiasis Control in Uganda. *Frontiers in veterinary science* 8: 611132
364. Okello WO, MacLeod ET, Muhangizi D, Waiswa C, Shaw AP, Welburn SC (2021b) Critical Linkages Between Livestock Production, Livestock Trade and Potential Spread of Human African Trypanosomiasis in Uganda: Bioeconomic Herd Modeling and Livestock Trade Analysis. *Frontiers in veterinary science* 8: 611141
365. Oldrieve G, Verney M, Jaron KS, Hébert L, Matthews KR (2021) Monomorphic Trypanozoon: towards reconciling phylogeny and pathologies. *Microbial genomics* 7
366. Oliu-Barton M, Pradelski BSR, Aghion P, Artus P, Kickbusch I, Lazarus JV, Sridhar D, Vanderslott S (2021) SARS-CoV-2 elimination, not mitigation, creates best outcomes for health, the economy, and civil liberties. *Lancet* 397: 2234-2236
367. Olsthoorn F, Sprong H, Fonville M, Rocchi M, Medlock J, Gilbert L, Ghazoul J (2021) Occurrence of tick-borne pathogens in questing *Ixodes ricinus* ticks from Wester Ross, Northwest Scotland. *Parasit Vectors* 14: 430
368. Opriessnig T, Huang YW (2021) Third update on possible animal sources for human COVID-19. *Xenotransplantation* 28: e12671
369. Opriessnig T, Mattei AA, Karuppannan AK, Halbur PG (2021a) Future perspectives on swine viral vaccines: where are we headed? *Porcine Health Manag* 7: 1
370. Opriessnig T, Rawal G, McKeen L, Filippsen Favaro P, Halbur PG, Gauger PC (2021b) Evaluation of the intranasal route for porcine reproductive and respiratory disease modified-live virus vaccination. *Vaccine* 39: 6852-6859
371. Orr B, Sutton K, Christian S, Nash T, Niemann H, Hansen LL, McGrew MJ, Jensen SR, Vervelde L (2021) Novel chicken two-dimensional intestinal model comprising all key epithelial cell types and a mesenchymal sub-layer. *Vet Res* 52: 142
372. Osnes MN, Dorp LV, Brynildsrud OB, Alfsnes K, Schneiders T, Templeton KE, Yahara K, Balloux F, Caugant DA, Eldholm V (2021) Antibiotic Treatment Regimes as a Driver of the Global Population Dynamics of a Major Gonorrhea Lineage. *Mol Biol Evol* 38: 1249-1261
373. Ostaszewski M, Niarakis A, Mazein A, Kuperstein I, Phair R, Orta-Resendiz A, Singh V, Aghamiri SS, Acencio ML, Glaab E et al (2021) COVID-19 Disease Map, a computational knowledge repository of virus-host interaction mechanisms. *Mol Syst Biol* 17: e10851
374. Owolabi ATY, Reece SE, Schneider P (2021) Daily rhythms of both host and parasite affect antimalarial drug efficacy. *Evolution, medicine, and public health* 9: 208-219
375. Pacheco A, McNeilly TN, Banos G, Conington J (2021) Genetic parameters of animal traits associated with coccidian and nematode parasite load and growth in Scottish Blackface sheep. *Animal* 15: 100185
376. Palmateer NE, Dickson E, Furrie E, Godber I, Goldberg DJ, Gousias P, Jarvis L, Mathie L, Mavin S, McMenamin J et al (2021) National population prevalence of antibodies to SARS-CoV-2 in Scotland during the first and second waves of the COVID-19 pandemic. *Public health* 198: 102-105



377. Paploski IAD, Pamornchainavakul N, Makau DN, Rovira A, Corzo CA, Schroeder DC, Cheeran MC, Doeschl-Wilson A, Kao RR, Lycett S *et al* (2021) Phylogenetic Structure and Sequential Dominance of Sub-Lineages of PRRSV Type-2 Lineage 1 in the United States. *Vaccines* 9: 608
378. Pardal AJ, Piquerez SJM, Dominguez-Ferreras A, Frungillo L, Mastorakis E, Reilly E, Latrasse D, Concia L, Gimenez-Ibanez S, Spoel SH *et al* (2021) Immunity onset alters plant chromatin and utilizes EDA16 to regulate oxidative homeostasis. *PLoS Pathog* 17: e1009572
379. Pascall DJ, Tinsley MC, Clark BL, Obbard DJ, Wilfert L (2021) Virus Prevalence and Genetic Diversity Across a Wild Bumblebee Community. *Front Microbiol* 12: 650747
380. Patel J, Fernandes G, Sridhar D (2021a) How can we improve self-isolation and quarantine for covid-19? *Bmj* 372: n625
381. Patel J, Fernandes G, Sridhar D (2021b) Maximising public adherence to COVID-19 self-isolation in Europe. *Lancet Reg Health Eur* 4: 100089
382. Paterson GK (2021) Genomic epidemiology of the opportunistic pathogen *Staphylococcus coagulans* from companion dogs. *Journal of medical microbiology* 70
383. Paul B, Isaac R, R H, Jebaraj P, S M, Das D, Norrie J, Grant L, Pinnock H, Nair H *et al* (2021a) Development of an educational intervention to reduce the burden of adult chronic lung disease in rural India: Inputs from a qualitative study. *PLoS one* 16: e0254534
384. Paul D, Anto N, Bhardwaj M, Prendiville A, Elangovan R, Bachmann TT, Chanda DD, Bhattacharjee A (2021b) Antimicrobial resistance in patients with suspected urinary tract infections in primary care in Assam, India. *JAC Antimicrob Resist* 3: dlab164
385. Pavelin J, Jin YH, Gratacap RL, Taggart JB, Hamilton A, Verner-Jeffreys DW, Paley RK, Rubin CJ, Bishop SC, Bron JE *et al* (2021) The nedd-8 activating enzyme gene underlies genetic resistance to infectious pancreatic necrosis virus in Atlantic salmon. *Genomics* 113: 3842-3850
386. Pearson MS, Tedla BA, Becker L, Nakajima R, Jasinskas A, Mduluza T, Mutapi F, Oeuvray C, Greco B, Sotillo J *et al* (2021a) Immunomics-Guided Antigen Discovery for Praziquantel-Induced Vaccination in Urogenital Human Schistosomiasis. *Front Immunol* 12: 663041
387. Pearson MS, Tedla BA, Mekonnen GG, Proietti C, Becker L, Nakajima R, Jasinskas A, Doolan DL, Amoah AS, Knopp S *et al* (2021b) Immunomics-guided discovery of serum and urine antibodies for diagnosing urogenital schistosomiasis: a biomarker identification study. *Lancet Microbe* 2: e617-e626
388. Peeters D, van Geloven N, Visser LE, Bogaert D, van Rossum AMC, Driessen GJA, Verhagen LM (2021) Study protocol for a randomised controlled trial evaluating the clinical effect of antibiotic prophylaxis in children with recurrent respiratory tract infections: the Approach study. *BMJ open* 11: e044505
389. Peno C, Armitage EP, Clerc M, Balcazar Lopez C, Jagne YJ, Drammeh S, Jarju S, Sallah H, Senghore E, Lindsey BB *et al* (2021) The effect of live attenuated influenza vaccine on pneumococcal colonisation densities among children aged 24-59 months in The Gambia: a phase 4, open label, randomised, controlled trial. *Lancet Microbe* 2: e656-e665
390. Pérez-Caballero R, Martínez-Moreno FJ, Corripio-Miyar Y, McNeilly TN, Cwiklinski K, Dalton JP, Zafra R, Pérez J, Martínez-Moreno Á, Buffoni L (2021) Antigen-specific response of CD4(+) T cells and hepatic lymph node cells to *Fasciola hepatica*-derived molecules at the early and late stage of the infection in sheep. *Vet Res* 52: 99
391. Pfaar O, Agache I, Bonini M, Brough HA, Chivato T, Del Giacco SR, Gawlik R, Gelincik A, Hoffmann-Sommergruber K, Jutel M *et al* (2021) COVID-19 pandemic and allergen immunotherapy - an EAACI survey. *Allergy* 76: 3504-3516
392. Pfavayi LT, Denning DW, Baker S, Sibanda EN, Mutapi F (2021a) Determining the burden of fungal infections in Zimbabwe. *Sci Rep* 11: 13240
393. Pfavayi LT, Sibanda EN, Baker S, Woolhouse M, Mduluza T, Mutapi F (2021b) Fungal allergic sensitisation in young rural Zimbabwean children: Gut mycobiome and seroreactivity characteristics. *Curr Res Microb Sci* 2: 100082



394. Pickering AC, Yebra G, Gong X, Goncheva MI, Wee BA, MacFadyen AC, Muehlbauer LF, Alves J, Cartwright RA, Paterson GK *et al* (2021) Evolutionary and Functional Analysis of Coagulase Positivity among the Staphylococci. *msSphere* 6: e0038121
395. Pickersgill M (2021a) A consideration of the social dimensions and implications of neuroimaging research in global health, as related to the theory-laden and theory-generating aspects of technology. *Neuroimage* 236: 118086
396. Pickersgill M (2021b) Governing through imaginaries: on the place and role of constructions of Japan within UK policy discourse regarding science, technology, and innovation. *J Law Biosci* 8: lsaa007
397. Pickersgill M (2021c) Negotiating Novelty: Constructing the Novel within Scientific Accounts of Epigenetics. *Sociology* 55: 600-618
398. Pickersgill M, Smith M (2021) Expertise from the humanities and social sciences is essential for governmental responses to COVID-19. *J Glob Health* 11: 03081
399. Pinto RM, Lycett S, Gaunt E, Digard P (2021) Accessory Gene Products of Influenza A Virus. *Cold Spring Harbor perspectives in medicine* 11
400. Pirolo M, Espinosa-Gongora C, Bogaert D, Guardabassi L (2021) The porcine respiratory microbiome: recent insights and future challenges. *Anim Microbiome* 3: 9
401. Pollock J, Glendinning L, Smith LA, Mohsin H, Gally DL, Hutchings MR, Houdijk JGM (2021a) Temporal and nutritional effects on the weaner pig ileal microbiota. *Anim Microbiome* 3: 58
402. Pollock J, Salter SJ, Nixon R, Hutchings MR (2021b) Milk microbiome in dairy cattle and the challenges of low microbial biomass and exogenous contamination. *Anim Microbiome* 3: 80
403. Potts RWA, Gutierrez AP, Penalosa CS, Regan T, Bean TP, Houston RD (2021) Potential of genomic technologies to improve disease resistance in molluscan aquaculture. *Philos Trans R Soc Lond B Biol Sci* 376: 20200168
404. Priesemann V, Balling R, Bauer S, Beutels P, Valdez AC, Cuschieri S, Czypionka T, Dumpis U, Glaab E, Grill E *et al* (2021) Towards a European strategy to address the COVID-19 pandemic. *Lancet* 398: 838-839
405. Prior KF, Middleton B, Owolabi ATY, Westwood ML, Holland J, O'Donnell AJ, Blackman MJ, Skene DJ, Reece SE (2021) Synchrony between daily rhythms of malaria parasites and hosts is driven by an essential amino acid. *Wellcome open research* 6: 186
406. Psifidi A, Kranis A, Rothwell LM, Bremner A, Russell K, Robledo D, Bush SJ, Fife M, Hocking PM, Banos G *et al* (2021) Quantitative trait loci and transcriptome signatures associated with avian heritable resistance to *Campylobacter*. *Sci Rep* 11: 1623
407. Puricelli Perin DM, Elfström KM, Bulliard JL, Burón A, Campbell C, Flugelman AA, Giordano L, Kamineni A, Ponti A, Rabeneck L *et al* (2021) Early assessment of the first wave of the COVID-19 pandemic on cancer screening services: The International Cancer Screening Network COVID-19 survey. *Prev Med* 151: 106642
408. Puzorov A, Mert Unal S, Wear MA, McCormick AJ (2021) Pilot scale production, extraction and purification of a thermostable phycocyanin from *Synechocystis* sp. PCC 6803. *Bioresour Technol* 345: 126459
409. Rahamn AE, Mhajabin S, Dockrell D, Nair H, El Arifeen S, Campbell H (2021) Managing pneumonia through facility-based integrated management of childhood management (IMCI) services: an analysis of the service availability and readiness among public health facilities in Bangladesh. *BMC health services research* 21: 667
410. Rahman AE, Hossain AT, Zaman SB, Salim N, K CA, Day LT, Ameen S, Ruysen H, Kija E, Peven K *et al* (2021) Antibiotic use for inpatient newborn care with suspected infection: EN-BIRTH multi-country validation study. *BMC Pregnancy Childbirth* 21: 229
411. Rajan V, Sivaraman GK, Vijayan A, Elangovan R, Prendiville A, Bachmann TT (2021) Genotypes and phenotypes of methicillin-resistant staphylococci isolated from shrimp aquaculture farms. *Environ Microbiol Rep* 14: 391-399
412. Ramalingam S, Graham C, Oatey K, Rayson P, Stoddart A, Sheikh A, Cunningham S (2021) Study protocol of the Edinburgh and Lothian Virus Intervention Study in Kids: a randomised controlled trial of hypertonic saline nose drops in children with upper respiratory tract infections (ELVIS Kids). *BMJ open* 11: e049964



- 413. Rambaut A, Holmes EC, O'Toole Á, Hill V, McCrone JT, Ruis C, du Plessis L, Pybus OG (2021) Addendum: A dynamic nomenclature proposal for SARS-CoV-2 lineages to assist genomic epidemiology. *Nature microbiology* 6: 415
- 414. Ramírez AT, Sánchez GI, Nedjai B, Agudelo MC, Brentnall AR, Cuschieri K, Castañeda KM, Cuzick J, Lorincz AT (2021) Effective methylation triage of HPV positive women with abnormal cytology in a middle-income country. *International journal of cancer* 148: 1383-1393
- 415. Ratz T, Monteith KM, Vale PF, Smiseth PT (2021) Carry on caring: infected females maintain their parental care despite high mortality. *Behavioral ecology : official journal of the International Society for Behavioral Ecology* 32: 738-746
- 416. Ravindran S, Froy H, Underwood SL, Dorrens J, Seeker LA, Watt K, Wilbourn RV, Pilkington JG, Harrington L, Pemberton JM *et al* (2021) The association between female reproductive performance and leukocyte telomere length in wild Soay sheep. *Mol Ecol*
- 417. Rawlins ME, Limon G, Adedeji AJ, Ijoma SI, Atai RB, Adole JA, Dogonyaro BB, Joel AY, Beard PM, Alarcon P (2021) Financial impact of sheeppox and goatpox and estimated profitability of vaccination for subsistence farmers in selected northern states of Nigeria. *Preventive veterinary medicine* 198: 105503
- 418. Read JM, Green CA, Harrison EM, Docherty AB, Funk S, Harrison J, Girvan M, Hardwick HE, Turtle L, Dunning J *et al* (2021) Hospital-acquired SARS-CoV-2 infection in the UK's first COVID-19 pandemic wave. *Lancet* 398: 1037-1038
- 419. Rebolj M, Mathews CS, Pesola F, Cuschieri K, Denton K, Kitchener H (2021) Age-specific outcomes from the first round of HPV screening in unvaccinated women: Observational study from the English cervical screening pilot. *BJOG : an international journal of obstetrics and gynaecology*
- 420. Rees CA, Hooli S, King C, McCollum ED, Colbourn T, Lufesi N, Mwansambo C, Lazzerini M, Madhi SA, Cutland C *et al* (2021) External validation of the RISC, RISC-Malawi, and PERCH clinical prediction rules to identify risk of death in children hospitalized with pneumonia. *J Glob Health* 11: 04062
- 421. Regan T, Stevens L, Peñaloza C, Houston RD, Robledo D, Bean TP (2021) Ancestral Physical Stress and Later Immune Gene Family Expansions Shaped Bivalve Mollusc Evolution. *Genome biology and evolution* 13: evab177
- 422. Rehman ZU, Martin K, Zahid O, Ali Q, Rashid I, Hafeez MA, Ahmad N, Ashraf K, Betson M, Sargison ND *et al* (2021) High-throughput sequencing of *Fasciola* spp. shows co-infection and intermediate forms in Balochistan, but only *Fasciola gigantica* in the Punjab province of Pakistan. *Infection, genetics and evolution : journal of molecular epidemiology and evolutionary genetics in infectious diseases* 94: 105012
- 423. Remot F, Ronget V, Froy H, Rey B, Gaillard JM, Nussey DH, Lemaître JF (2021) Decline in telomere length with increasing age across non-human vertebrates: a meta-analysis. *Mol Ecol*
- 424. Rennie TJW, Geddes CG, McIntyre-McClure R, Chua BHE, Metcalfe W, Johannessen I, Phelan PJ (2021) Efficacy and side effect profile of two CMV prophylaxis strategies in high and intermediate risk kidney transplant recipients - a multicentre national study. *J Nephrol* 34: 2173-2175
- 425. Reslova N, Skorpikova L, Kyrianova IA, Vadlejch J, Höglund J, Skuce P, Kasny M (2021) The identification and semi-quantitative assessment of gastrointestinal nematodes in faecal samples using multiplex real-time PCR assays. *Parasit Vectors* 14: 391
- 426. Reyes L, M AS-G, Morrison T, Howden AJM, Watts ER, Arienti S, Sadiku P, Coelho P, Mirchandani AS, Zhang A *et al* (2021) -----A type I IFN, prothrombotic hyperinflammatory neutrophil signature is distinct for COVID-19 ARDS. *Wellcome open research* 6: 38
- 427. Reyman M, Clerc M, van Houten MA, Arp K, Chu M, Hasrat R, Sanders EAM, Bogaert D (2021) Microbial community networks across body sites are associated with susceptibility to respiratory infections in infants. *Communications biology* 4: 1233
- 428. Richards S, Morrison LJ, Torr SJ, Barrett MP, Manangwa O, Mramba F, Auty H (2021) Pharma to farmer: field challenges of optimizing trypanocide use in African animal trypanosomiasis. *Trends Parasitol* 37: 831-843



429. Rieblinger B, Sid H, Duda D, Bozoglu T, Klinger R, Schlickenrieder A, Lengyel K, Flisikowski K, Flisikowska T, Simm N et al (2021) Cas9-expressing chickens and pigs as resources for genome editing in livestock. *Proc Natl Acad Sci U S A* 118
430. Rios MR, Garoffolo G, Rinaldi G, Megia-Fernandez A, Ferrari S, Robb CT, Rossi AG, Pesce M, Bradley M (2021) A fluorogenic peptide-based smartprobe for the detection of neutrophil extracellular traps and inflammation. *Chem Commun (Camb)* 57: 97-100
431. Rocchi M, Gordon F, Innocent G (2021) Samples needed for louping ill survey. *Vet Rec* 189: 79
432. Rojas F, Cayla M, Matthews KR (2021a) Basement membrane proteins as a substrate for efficient Trypanosoma brucei differentiation in vitro. *PLoS Negl Trop Dis* 15: e0009284
433. Rojas JM, Pascual E, Wattegedera SR, Avia M, Santiago C, Martín V, Entrican G, Sevilla N (2021b) Hemagglutinin protein of Peste des Petits Ruminants virus (PPRV) activates the innate immune response via Toll-like receptor 2 signaling. *Virulence* 12: 690-703
434. Rose Vineer H, Verschave SH, Claerebout E, Vercruyse J, Shaw DJ, Charlier J, Morgan ER (2021) Corrigendum to "GLOWORM-PARA: a flexible framework to simulate the population dynamics of the parasitic phase of gastrointestinal nematodes infecting grazing livestock" [Int. J. Parasitol. 50 (2020) 133-144]. *Int J Parasitol* 51: 883-885
435. Roy S, Rizvi ZA, Clarke AJ, Macdonald F, Pandey A, Zaiss DMW, Simon AK, Awasthi A (2021) EGFR-HIF1 α signaling positively regulates the differentiation of IL-9 producing T helper cells. *Nat Commun* 12: 3182
436. Rudan I, Theodoratou E, Chan KY, Adeloye D, Polášek O, Campbell H, Chopra M (2021) Using evidence, expert opinion and epidemiological model to understand pathways to survival and mortality: The Pathways to Survival (PATHS) Tool. *J Glob Health* 11: 15001
437. Rupprechter SAE, Sloan DJ, Oosthuizen W, Bachmann TT, Hill AT, Dhaliwal K, Templeton K, Matovu J, Sekagya-Wiltshire C, Dear JW (2021) MicroRNA-122 and cytokeratin-18 have potential as a biomarkers of drug-induced liver injury in European and African patients on treatment for mycobacterial infection. *British journal of clinical pharmacology* 87: 3206-3217
438. Russell CD, Fairfield CJ, Drake TM, Turtle L, Seaton RA, Wootton DG, Sigfrid L, Harrison EM, Docherty AB, de Silva TI et al (2021a) Co-infections, secondary infections, and antimicrobial use in patients hospitalised with COVID-19 during the first pandemic wave from the ISARIC WHO CCP-UK study: a multicentre, prospective cohort study. *Lancet Microbe* 2: e354-e365
439. Russell KM, Smith J, Bremner A, Chintoan-Uta C, Vervelde L, Psifidi A, Stevens MP (2021b) Transcriptomic analysis of caecal tissue in inbred chicken lines that exhibit heritable differences in resistance to *Campylobacter jejuni*. *BMC genomics* 22: 411
440. Sadiku P, Willson JA, Ryan EM, Sammut D, Coelho P, Watts ER, Grecian R, Young JM, Bewley M, Arienti S et al (2021) Neutrophils Fuel Effective Immune Responses through Gluconeogenesis and Glycogenesis. *Cell Metab* 33: 411-423.e414
441. Sahota RS, Sanha S, Last A, Cassama E, Goncalves A, Kelly AH, Street A, Harding-Esch EM (2021) Acceptability and perceived utility of different diagnostic tests and sample types for trachoma surveillance in the Bijagos Islands, Guinea Bissau. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 115: 847-853
442. Salamat MKF, Blanco ARA, McCutcheon S, Tan KBC, Stewart P, Brown H, Smith A, de Wolf C, Groschup MH, Becher D et al (2021a) Preclinical transmission of prions by blood transfusion is influenced by donor genotype and route of infection. *PLoS Pathog* 17: e1009276
443. Salamat MKF, Gossner A, Bradford B, Hunter N, Hopkins J, Houston F (2021b) Scrapie infection and endogenous retroviral expression in sheep lymphoid tissues. *Vet Immunol Immunopathol* 233: 110194
444. Salazar-Rodríguez D, Aleaga-Santiesteban Y, Iglesias E, Plascencia-Hernández A, Pérez-Gómez HR, Calderón EJ, Vázquez-Boland JA, de Armas Y (2021) Virulence Plasmids of *Rhodococcus equi* Isolates From Cuban Patients With AIDS. *Frontiers in veterinary science* 8: 628239
445. Santra M, Owens M, Birch G, Bradley M (2021) Near-Infrared-Emitting Hemicyanines and Their Photodynamic Killing of Cancer Cells. *ACS Appl Bio Mater* 4: 8503-8508



446. Sanz-Bernardo B, Haga IR, Wijesiriwardana N, Basu S, Larner W, Diaz AV, Langlands Z, Denison E, Stoner J, White M *et al* (2021) Quantifying and Modeling the Acquisition and Retention of Lumpy Skin Disease Virus by Hematophagous Insects Reveals Clinically but Not Subclinically Affected Cattle Are Promoters of Viral Transmission and Key Targets for Control of Disease Outbreaks. *J Virol* 95
447. Sargison FA, Fitzgerald JR (2021) Advances in Transposon Mutagenesis of *Staphylococcus aureus*: Insights into Pathogenesis and Antimicrobial Resistance. *Trends in microbiology* 29: 282-285
448. Sargison ND, Mazeri S, Gamble L, Lohr F, Chikungwa P, Chulu J, Hunsberger KT, Jourdan N, Shah A, Burdon Bailey JL (2021) Conjunctival mucous membrane colour as an indicator for the targeted selective treatment of haemonchosis and of the general health status of peri-urban smallholder goats in southern Malawi. *Preventive veterinary medicine* 186: 105225
449. Saunders PTK, Horne AW (2021) Endometriosis: Etiology, pathobiology, and therapeutic prospects. *Cell* 184: 2807-2824
450. Saura M, Caballero A, Santiago E, Fernández A, Morales-González E, Fernández J, Cabaleiro S, Millán A, Martínez P, Palaiokostas C *et al* (2021) Estimates of recent and historical effective population size in turbot, seabream, seabass and carp selective breeding programmes. *Genetics, selection, evolution : GSE* 53: 85
451. Savage VL, Christley R, Pinchbeck G, Morrison LJ, Hodgkinson J, Peachey LE (2021) Co-infection with *Trypanosoma congolense* and *Trypanosoma brucei* is a significant risk factor for cerebral trypanosomosis in the equid population of the Gambia. *Preventive veterinary medicine* 197: 105507
452. Schilling AK, van Hooij A, Lurz PWW, Shaw DJ, Geluk A, Corstjens P, Stevenson K, Meredith AL (2021) CLINICAL PROGRESSION OF LEPROSY IN EURASIAN RED SQUIRRELS (*SCIURUS VULGARIS*) IN A NATURALLY INFECTED WILD POPULATION. *Journal of zoo and wildlife medicine : official publication of the American Association of Zoo Veterinarians* 52: 1159-1166
453. Schneider P, Reece SE (2021) The private life of malaria parasites: Strategies for sexual reproduction. *Mol Biochem Parasitol* 244: 111375
454. Schulze H, Arnott A, Libori A, Obaje EA, Bachmann TT (2021) Temperature-Enhanced mcr-1 Colistin Resistance Gene Detection with Electrochemical Impedance Spectroscopy Biosensors. *Anal Chem* 93: 6025-6033
455. Seeker LA, Underwood SL, Wilbourn RV, Dorrens J, Froy H, Holland R, Ikska JJ, Psifidi A, Bagnall A, Whitelaw B *et al* (2021) Telomere attrition rates are associated with weather conditions and predict productive lifespan in dairy cattle. *Sci Rep* 11: 5589
456. Shaukat A, Ali Q, Raud L, Wahab A, Khan TA, Rashid I, Rashid M, Hussain M, Saleem MA, Sargison ND *et al* (2021) Phylogenetic analysis suggests single and multiple origins of dihydrofolate reductase mutations in *Plasmodium vivax*. *Acta tropica* 215: 105821
457. Shave S, Chen YK, Pham NT, Auer M (2021) PyBindingCurve, Simulation, and Curve Fitting to Complex Binding Systems at Equilibrium. *J Chem Inf Model* 61: 2911-2915
458. Shaw HJ, Armstrong C, Uttley K, Morrison LJ, Innes EA, Katzer F (2021a) Genetic diversity and shedding profiles for *Cryptosporidium parvum* in adult cattle and their calves. *Curr Res Parasitol Vector Borne Dis* 1: None
459. Shaw RJ, Abrams ST, Austin J, Taylor JM, Lane S, Dutt T, Downey C, Du M, Turtle L, Baillie JK *et al* (2021b) Circulating histones play a central role in COVID-19-associated coagulopathy and mortality. *Haematologica* 106: 2493-2498
460. Shi T, Vennard S, Mahdy S, Nair H (2021) Risk factors for RSV associated acute lower respiratory infection poor outcome and mortality in young children: A systematic review and meta-analysis. *J Infect Dis*
461. Shimizu K, Sridhar D, Taniguchi K, Shibuya K (2021) Reconsider this summer's Olympic and Paralympic games. *Bmj* 373: n962
462. Shrestha AD, Neupane D, Ghimire S, Campbell C, Kallestrup P (2021) Community-based intervention for cervical cancer screening uptake in a semi-urban area of Pokhara Metropolitan, Nepal (COBIN-C): study protocol for a cluster-randomized controlled trial. *Trials* 22: 94
463. Sibanda EN, Dube Y, Chakawa M, Mduluza T, Mutapi F (2021) Systemic Sclerosis in Zimbabwe: Autoantibody Biomarkers, Clinical, and Laboratory Correlates. *Front Immunol* 12: 679531



464. Sigfrid L, Drake TM, Pauley E, Jesudason EC, Olliaro P, Lim WS, Gillesen A, Berry C, Lowe DJ, McPeake J *et al* (2021) Long Covid in adults discharged from UK hospitals after Covid-19: A prospective, multicentre cohort study using the ISARIC WHO Clinical Characterisation Protocol. *Lancet Reg Health Eur*: 100186
465. Simonet C, McNally L (2021) Kin selection explains the evolution of cooperation in the gut microbiota. *Proc Natl Acad Sci U S A* 118
466. Simpson CR, Robertson C, Vasileiou E, Moore E, McCowan C, Agrawal U, Stagg HR, Docherty A, Mulholland R, Murray JLK *et al* (2021) Temporal trends and forecasting of COVID-19 hospitalisations and deaths in Scotland using a national real-time patient-level data platform: a statistical modelling study. *Lancet Digit Health* 3: e517-e525
467. Siva-Jothy JA, Vale PF (2021) Dissecting genetic and sex-specific sources of host heterogeneity in pathogen shedding and spread. *PLoS Pathog* 17: e1009196
468. Sivaraman GK, Rajan V, Vijayan A, Elangovan R, Prendiville A, Bachmann TT (2021) Antibiotic Resistance Profiles and Molecular Characteristics of Extended-Spectrum Beta-Lactamase (ESBL)-Producing Escherichia coli and Klebsiella pneumoniae Isolated From Shrimp Aquaculture Farms in Kerala, India. *Front Microbiol* 12: 622891
469. Skelly MJ, Spoel SH (2021) Characterising Plant Deubiquitinases with in vitro Activity-based Labelling and Ubiquitin Chain Disassembly Assays. *Bio-protocol* 11: e4015
470. Slater L, Betson M, Ashraf S, Sargison N, Chaudhry U (2021) Current methods for the detection of antimalarial drug resistance in Plasmodium parasites infecting humans. *Acta tropica* 216: 105828
471. Sordo L, Gunn-Moore DA (2021) Cognitive Dysfunction in Cats: Update on Neuropathological and Behavioural Changes Plus Clinical Management. *Vet Rec* 188: e3
472. Sovig FW, Schwerk J, Gokhale NS, Cerosaletti K, Smith JR, Pairo-Castineira E, Kell AM, Forero A, Zaver SA, Esser-Nobis K *et al* (2021) Endomembrane targeting of human OAS1 p46 augments antiviral activity. *eLife* 10: e71047
473. Sparks AM, Johnston SE, Handel I, Pilkington JG, Berry J, Pemberton JM, Nussey DH, Mellanby RJ (2021) Vitamin D status is heritable and under environment-dependent selection in the wild. *Mol Ecol*
474. Sridhar D, Gurdasani D (2021) Herd immunity by infection is not an option. *Science* 371: 230-231
475. Stanczuk GA, Currie H, Forson W, Baxter G, Lawrence J, Wilson A, Palmer T, Arbyn M, Cuschieri K (2021) Self-sampling as the principal modality for population based cervical screening: Five-year follow-up of the PaVDaG study. *International journal of cancer* 150: 1350-1356
476. Staneva DP, Carloni R, Auchynnika T, Tong P, Rappaport J, Jeyaprakash AA, Matthews KR, Allshire RC (2021) A systematic analysis of Trypanosoma brucei chromatin factors identifies novel protein interaction networks associated with sites of transcription initiation and termination. *Genome research* 31: 2138-2154
477. Steketee PC, Dickie EA, Iremonger J, Crouch K, Paxton E, Jayaraman S, Alfituri OA, Awuah-Mensah G, Ritchie R, Schnaufer A *et al* (2021a) Divergent metabolism between Trypanosoma congolense and Trypanosoma brucei results in differential sensitivity to metabolic inhibition. *PLoS Pathog* 17: e1009734
478. Steketee PC, Giordani F, Vincent IM, Crouch K, Achcar F, Dickens NJ, Morrison LJ, MacLeod A, Barrett MP (2021b) Transcriptional differentiation of Trypanosoma brucei during in vitro acquisition of resistance to acoziborole. *PLoS Negl Trop Dis* 15: e0009939
479. Stevens MP, Kingsley RA (2021) Salmonella pathogenesis and host-adaptation in farmed animals. *Current opinion in microbiology* 63: 52-58
480. Stoffel MA, Johnston SE, Pilkington JG, Pemberton JM (2021a) Genetic architecture and lifetime dynamics of inbreeding depression in a wild mammal. *Nat Commun* 12: 2972
481. Stoffel MA, Johnston SE, Pilkington JG, Pemberton JM (2021b) Mutation load decreases with haplotype age in wild Soay sheep. *Evol Lett* 5: 187-195
482. Sun YX, Zhang DD, Sheng Y, Xu D, Zhang R, Bradley M (2021) Supramolecular assembly induced chiral interface for electrochemical recognition of tryptophan enantiomers. *Anal Methods* 13: 2011-2020
483. Sundararaj JJ, Munday D, Duomai S, John P, Priscilla SR, Powys R, Singh A, Boyd KJ, Grant L, Murray SA (2021) 'COVID-19 and palliative medicine: faith-based hospitals in India'. *BMJ supportive & palliative care*



484. Takawira FT, Pitout JD, Thilliez G, Mashe T, Gutierrez AV, Kingsley RA, Peirano G, Matheu J, Midzi SM, Mwamakamba LW *et al* (2021) Molecular epidemiology of extended-spectrum beta-lactamase-producing extra-intestinal pathogenic Escherichia coli strains over a 2-year period (2017-2019) from Zimbabwe. *European journal of clinical microbiology & infectious diseases : official publication of the European Society of Clinical Microbiology*
485. Tan S, Gutiérrez AH, Gauger PC, Opriessnig T, Bahl J, Moise L, De Groot AS (2021) Quantifying the Persistence of Vaccine-Related T Cell Epitopes in Circulating Swine Influenza A Strains from 2013-2017. *Vaccines* 9
486. Tassi R, Schiavo M, Filipe J, Todd H, Ewing D, Ballingall KT (2021) Intramammary Immunisation Provides Short Term Protection Against Mannheimia haemolytica Mastitis in Sheep. *Frontiers in veterinary science* 8: 659803
487. Teirlinck AC, Broberg EK, Berg AS, Campbell H, Reeves RM, Carnahan A, Lina B, Pakarna G, Bøås H, Nohynek H *et al* (2021) Recommendations for respiratory syncytial virus surveillance at national level. *The European respiratory journal* 58: 2003766
488. Thomson EC, Rosen LE, Shepherd JG, Spreafico R, da Silva Filipe A, Wojcechowskyj JA, Davis C, Piccoli L, Pascall DJ, Dillen J *et al* (2021) Circulating SARS-CoV-2 spike N439K variants maintain fitness while evading antibody-mediated immunity. *Cell* 184: 1171-1187.e1120
489. Thongkawphueak T, Winter AJ, Williams C, Maple HJ, Soontaranon S, Kaewhan C, Campopiano DJ, Crump MP, Wattana-Amorn P (2021) Solution Structure and Conformational Dynamics of a Doublet Acyl Carrier Protein from Prodigiosin Biosynthesis. *Biochemistry* 60: 219-230
490. Thuy NTD, Trung NT, Dung TQ, Khoa DVA, Thuy DTN, Opriessnig T (2021) First investigation of the prevalence of parvoviruses in slaughterhouse pigs and genomic characterization of ungulate copiparvovirus 2 in Vietnam. *Archives of virology* 166: 779-788
491. Thwaites RS, Sanchez Sevilla Uruchurtu A, Siggins MK, Liew F, Russell CD, Moore SC, Fairfield C, Carter E, Abrams S, Short CE *et al* (2021) Inflammatory profiles across the spectrum of disease reveal a distinct role for GM-CSF in severe COVID-19. *Science immunology* 6
492. Tibble H, Flook M, Sheikh A, Tsanas A, Horne R, Vrijens B, De Geest S, Stagg HR (2021) Measuring and reporting treatment adherence: What can we learn by comparing two respiratory conditions? *British journal of clinical pharmacology* 87: 825-836
493. Tomaselli M, Ytrehus B, Opriessnig T, Duignan P, Dalton C, Kutz S, Checkley S (2021) Contagious Ecthyma Dermatitis as a Portal of Entry for *Erysipelothrix rhusiopathiae* in Muskoxen (*Ovibos moschatus*) of the Canadian Arctic. *J Wildl Dis* 58: 228-231
494. Tomassetti C, Johnson NP, Petrozza J, Abrao MS, Einarsson JI, Horne AW, Lee TTM, Missmer S, Vermeulen N, Zondervan KT *et al* (2021) An International Terminology for Endometriosis, 2021. *J Minim Invasive Gynecol* 28: 1849-1859
495. Tregaskes CA, Kaufman J (2021) Chickens as a simple system for scientific discovery: The example of the MHC. *Mol Immunol* 135: 12-20
496. Ulferts R, Marcassa E, Timimi L, Lee LC, Daley A, Montaner B, Turner SD, Florey O, Baillie JK, Beale R (2021) Subtractive CRISPR screen identifies the ATG16L1/vacuolar ATPase axis as required for non-canonical LC3 lipidation. *Cell reports* 37: 109899
497. van Bunnik BAD, Morgan ALK, Bessell PR, Calder-Gerver G, Zhang F, Haynes S, Ashworth J, Zhao S, Cave RNR, Perry MR *et al* (2021) Segmentation and shielding of the most vulnerable members of the population as elements of an exit strategy from COVID-19 lockdown. *Philos Trans R Soc Lond B Biol Sci* 376: 20200275
498. Varsani A, Opriessnig T, Celer V, Maggi F, Okamoto H, Blomström AL, Cedar D, Harrach B, Biagini P, Kraberger S (2021) Taxonomic update for mammalian anelloviruses (family Anelloviridae). *Archives of virology* 166: 2943-2953
499. Vaughan-Shaw PG, Timofeeva M, Ooi LY, Svinti V, Grimes G, Smillie C, Blackmur JP, Donnelly K, Theodoratou E, Campbell H *et al* (2021) Differential genetic influences over colorectal cancer risk and gene expression in large bowel mucosa. *International journal of cancer* 149: 1100-1108



500. Vengesai A, Midzi H, Kasambala M, Mutandadzi H, Mduluza-Jokonya TL, Rusakaniko S, Mutapi F, Naicker T, Mduluza T (2021) A systematic and meta-analysis review on the diagnostic accuracy of antibodies in the serological diagnosis of COVID-19. *Systematic reviews* 10: 155
501. Vermeulen N, Abrao MS, Einarsson JI, Horne AW, Johnson NP, Lee TTM, Missmer S, Petrozza J, Tomassetti C, Zondervan KT *et al* (2021) Endometriosis Classification, Staging and Reporting Systems: A Review on the Road to a Universally Accepted Endometriosis Classification. *J Minim Invasive Gynecol* 28: 1822-1848
502. Vernooij E, Koker F, Street A (2021) Responsibility, repair and care in Sierra Leone's health system. *Social science & medicine* (1982): 114260
503. Viola IM, Peterson B, Pisetta G, Pavar G, Akhtar H, Menoloascina F, Mangano E, Dunn KE, Gabl R, Nila A *et al* (2021) Face Coverings, Aerosol Dispersion and Mitigation of Virus Transmission Risk. *IEEE Open J Eng Med Biol* 2: 26-35
504. Virga F, Cappellessi F, Stijlemans B, Henze AT, Trotta R, Van Audenaerde J, Mirchandani AS, Sanchez-Garcia MA, Vandewalle J, Orso F *et al* (2021) Macrophage miR-210 induction and metabolic reprogramming in response to pathogen interaction boost life-threatening inflammation. *Science advances* 7
505. Vohra P, Chintoan-Uta C, Bremner A, Mauri M, Terra VS, Cuccui J, Wren BW, Vervelde L, Stevens MP (2021) Evaluation of a *Campylobacter jejuni* N-glycan-ExoA glycoconjugate vaccine to reduce *C. jejuni* colonisation in chickens. *Vaccine* 39: 7413-7420
506. Volz E, Hill V, McCrone JT, Price A, Jorgensen D, O'Toole Á, Southgate J, Johnson R, Jackson B, Nascimento FF *et al* (2021) Evaluating the Effects of SARS-CoV-2 Spike Mutation D614G on Transmissibility and Pathogenicity. *Cell* 184: 64-75.e11
507. Voysey M, Clemens SAC, Madhi SA, Weckx LY, Folegatti PM, Aley PK, Angus B, Baillie VL, Barnabas SL, Bhorat QE *et al* (2021a) Safety and efficacy of the ChAdOx1 nCoV-19 vaccine (AZD1222) against SARS-CoV-2: an interim analysis of four randomised controlled trials in Brazil, South Africa, and the UK. *Lancet* 397: 99-111
508. Voysey M, Costa Clemens SA, Madhi SA, Weckx LY, Folegatti PM, Aley PK, Angus B, Baillie VL, Barnabas SL, Bhorat QE *et al* (2021b) Single-dose administration and the influence of the timing of the booster dose on immunogenicity and efficacy of ChAdOx1 nCoV-19 (AZD1222) vaccine: a pooled analysis of four randomised trials. *Lancet* 397: 881-891
509. Vukovic N, Harraou S, van Duijnhoven SMJ, Zaiss DM, van Elsas A (2021) Purification of murine immunoglobulin E (IgE) by thiophilic interaction chromatography (TIC). *Journal of immunological methods* 489: 112914
510. Wagner M, Slaghuis J, Göbel W, Vázquez-Boland JA, Rychli K, Schmitz-Esser S (2021) Virulence Pattern Analysis of Three *Listeria monocytogenes* Lineage I Epidemic Strains with Distinct Outbreak Histories. *Microorganisms* 9
511. Wagstaffe HR, Clutterbuck EA, Bockstal V, Stoop JN, Luhn K, Douoguih M, Shukarev G, Snape MD, Pollard AJ, Riley EM *et al* (2021a) Antibody-Dependent Natural Killer Cell Activation After Ebola Vaccination. *J Infect Dis* 223: 1171-1182
512. Wagstaffe HR, Susannini G, Thiébaut R, Richert L, Lévy Y, Bockstal V, Stoop JN, Luhn K, Douoguih M, Riley EM *et al* (2021b) Durable natural killer cell responses after heterologous two-dose Ebola vaccination. *NPJ Vaccines* 6: 19
513. Wallace MA, Coffman KA, Gilbert C, Ravindran S, Albery GF, Abbott J, Argyridou E, Bellotta P, Betancourt AJ, Colinet H *et al* (2021) The discovery, distribution, and diversity of DNA viruses associated with *Drosophila melanogaster* in Europe. *Virus evolution* 7: veab031
514. Walworth NG, Hinners J, Argyle PA, Leles SG, Doblin MA, Collins S, Levine NM (2021) The evolution of trait correlations constrains phenotypic adaptation to high CO₂ in a eukaryotic alga. *Proc Biol Sci* 288: 20210940
515. Wan X, Saltepe B, Yu L, Wang B (2021) Programming living sensors for environment, health and biomanufacturing. *Microb Biotechnol* 14: 2334-2342
516. Wang L, Zhang X, Meng X, Koskeridis F, Georgiou A, Yu L, Campbell H, Theodoratou E, Li X (2021a) Methodology in genome-wide association studies: a systematic review. *Journal of medical genetics* 58: 720-728



517. Wang X, Li Y, Deloria-Knoll M, Madhi SA, Cohen C, Ali A, Basnet S, Bassat Q, Brooks WA, Chittaganpitch M *et al* (2021b) Global burden of acute lower respiratory infection associated with human metapneumovirus in children under 5 years in 2018: a systematic review and modelling study. *The Lancet Global health* 9: e33-e43
518. Wang X, Li Y, Mei X, Bushe E, Campbell H, Nair H (2021c) Global hospital admissions and in-hospital mortality associated with all-cause and virus-specific acute lower respiratory infections in children and adolescents aged 5-19 years between 1995 and 2019: a systematic review and modelling study. *BMJ global health* 6
519. Wang X, Li Y, Nair H, Campbell H (2021d) Time-Varying Association Between Severe Respiratory Syncytial Virus Infections and Subsequent Severe Asthma and Wheeze and Influences of Age at the Infection. *J Infect Dis*
520. Ward BA, Cael BB, Collins S, Young CR (2021) Selective constraints on global plankton dispersal. *Proc Natl Acad Sci U S A* 118
521. Wee BA, Alves J, Lindsay DSJ, Klatt AB, Sargison FA, Cameron RL, Pickering A, Gorzynski J, Corander J, Marttinen P *et al* (2021) Population analysis of Legionella pneumophila reveals a basis for resistance to complement-mediated killing. *Nat Commun* 12: 7165
522. Weidner J, Bartel S, Kılıç A, Zissler UM, Renz H, Schwarze J, Schmidt-Weber CB, Maes T, Rebane A, Krauss-Etschmann S *et al* (2021) Spotlight on microRNAs in allergy and asthma. *Allergy* 76: 1661-1678
523. Wessels ME, Deaville R, Perkins MW, Jepson PD, Penrose R, Rocchi MS, Maley M, Ballingall KT, Dagleish MP (2021) Novel Presentation of DMV-Associated Encephalitis in a Long-Finned Pilot Whale (*Globicephala melas*). *J Comp Pathol* 183: 51-56
524. Whitaker L, Horne AW (2021) Lay awareness of USS to diagnose endometriosis remains low. *BJOG : an international journal of obstetrics and gynaecology* 128: 2091
525. Whitaker LHR, Doust A, Stephen J, Norrie J, Cooper K, Daniels J, Hummelshøj L, Cox E, Beatty L, Chien P *et al* (2021) Laparoscopic treatment of isolated superficial peritoneal endometriosis for managing chronic pelvic pain in women: study protocol for a randomised controlled feasibility trial (ESPriT1). *Pilot and feasibility studies* 7: 19
526. Whiteley D, Speakman E, Elliott L, Davidson K, Hamilton E, Jarvis H, Quinn M, Flowers P (2021) Provider-related barriers and enablers to the provision of hepatitis C treatment by general practitioners in Scotland: A behaviour change analysis. *J Viral Hepat* 28: 528-537
527. Wickenhagen A, Sugrue E, Lytras S, Kuchi S, Noerenberg M, Turnbull ML, Loney C, Herder V, Allan J, Jarmson I *et al* (2021) A prenylated dsRNA sensor protects against severe COVID-19. *Science* 374: eabj3624
528. Wiener P, Robert C, Ahbara A, Salavati M, Abebe A, Kebede A, Wragg D, Friedrich J, Vasoya D, Hume DA *et al* (2021) Whole-genome sequence data suggests environmental adaptation of Ethiopian sheep populations. *Genome biology and evolution* 13
529. Williams GOS, Williams E, Finlayson N, Erdogan AT, Wang Q, Fernandes S, Akram AR, Dhaliwal K, Henderson RK, Girkin JM *et al* (2021a) Full spectrum fluorescence lifetime imaging with 0.5 nm spectral and 50 ps temporal resolution. *Nat Commun* 12: 6616
530. Williams MC, van Beek EJR, Hill AT, Murchison JT (2021b) Coronary Artery Calcification on Thoracic Computed Tomography Is an Independent Predictor of Mortality in Patients With Bronchiectasis. *J Thorac Imaging* 36: 166-173
531. Willson JA, Arienti S, Sadiku P, Reyes L, Coelho P, Morrison T, Rinaldi G, Dockrell DH, Whyte MKB, Walmsley SR (2021) Neutrophil HIF-1 α stabilisation is augmented by mitochondrial ROS produced via the glycerol 3-phosphate shuttle. *Blood* 139
532. Wong F, Wilson S, Helbig R, Hegde S, Aftenieva O, Zheng H, Liu C, Pilizota T, Garner EC, Amir A *et al* (2021) Understanding Beta-Lactam-Induced Lysis at the Single-Cell Level. *Front Microbiol* 12: 712007
533. Wright PB, McDonald E, Bravo-Blas A, Baer HM, Heawood A, Bain CC, Mowat AM, Clay SL, Robertson EV, Morton F *et al* (2021) The mannose receptor (CD206) identifies a population of colonic macrophages in health and inflammatory bowel disease. *Sci Rep* 11: 19616
534. Wu H, Zhang H, Karwath A, Ibrahim Z, Shi T, Zhang X, Wang K, Sun J, Dhaliwal K, Bean D *et al* (2021a) Ensemble learning for poor prognosis predictions: A case study on SARS-CoV-2. *J Am Med Inform Assoc* 28: 791-800



535. Wu Z, Hu T, Chintoan-Uta C, Macdonald J, Stevens MP, Sang H, Hume DA, Kaiser P, Balic A (2021b) Development of novel reagents to chicken FLT3, XCR1 and CSF2R for the identification and characterisation of avian conventional dendritic cells. *Immunology* 165
536. Yates T, Zaccardi F, Islam N, Razieh C, Gillies CL, Lawson CA, Chudasama Y, Rowlands A, Davies MJ, Doherty AB et al (2021) Obesity, chronic disease, age, and in-hospital mortality in patients with covid-19: analysis of ISARIC clinical characterisation protocol UK cohort. *BMC Infect Dis* 21: 717
537. Yebra G, Haag AF, Neamah MM, Wee BA, Richardson EJ, Horcajo P, Granneman S, Tormo-Más M, de la Fuente R, Fitzgerald JR et al (2021) Radical genome remodelling accompanied the emergence of a novel host-restricted bacterial pathogen. *PLoS Pathog* 17: e1009606
538. Yerolatsitis S, Kufcsák A, Ehrlich K, Wood HAC, Fernandes S, Quinn T, Young V, Young I, Hamilton K, Akram AR et al (2021) Sub millimetre flexible fibre probe for background and fluorescence free Raman spectroscopy. *J Biophotonics* 14: e202000488
539. Ytrehus B, Rocchi M, Brandsegg H, Turnbull D, Miller A, Pedersen HC, Kålås JA, Nilsen EB (2021) LOUPING-ILL VIRUS SEROSURVEY OF WILLOW PTARMIGAN (LAGOPUS LAGOPUS LAGOPUS) IN NORWAY. *J Wildl Dis* 57: 282-291
540. Zamperin G, Bianco A, Smith J, Bortolami A, Vervelde L, Schivo A, Fortin A, Marciano S, Panzarini V, Mazzetto E et al (2021) Heterogeneity of Early Host Response to Infection with Four Low-Pathogenic H7 Viruses with a Different Evolutionary History in the Field. *Viruses* 13: 2323
541. Zhang F, Karamagi H, Nsenga N, Nanyunja M, Karinja M, Amanfo S, Chase-Topping M, Calder-Gerver G, McGibbon M, Huber A et al (2021a) Predictors of COVID-19 epidemics in countries of the World Health Organization African Region. *Nature medicine* 27: 2041-2047
542. Zhang S, Lilienkampf A, Bradley M (2021b) Solid-Phase Synthesis of Fluorescent Probes for Plasma Membrane Labelling. *Molecules* 26: 354
543. Zhang S, Springer LE, Rao HZ, Espinosa Trethewy RG, Bishop LM, Hancock MH, Grey F, Snyder CM (2021c) Hematopoietic cell-mediated dissemination of murine cytomegalovirus is regulated by NK cells and immune evasion. *PLoS Pathog* 17: e1009255
544. Zhang Y, Clarke A, Regan KH, Campbell K, Donaldson S, Crowe J, Rossi AG, Hill AT (2021d) Isolated IgG2 Deficiency is an Independent Risk Factor for Exacerbations in Bronchiectasis. *QJM : monthly journal of the Association of Physicians* 115
545. Zhang Y, Hill AT (2021) Amikacin liposome inhalation suspension as a treatment for patients with refractory mycobacterium avium complex lung infection. *Expert Rev Respir Med* 15: 737-744
546. Zhao S, Kennedy S, Perry MR, Wilson J, Chase-Topping M, Anderson E, Woolhouse MEJ, Lockhart M (2021a) Epidemiology of and risk factors for mortality due to carbapenemase-producing organisms (CPO) in healthcare facilities. *The Journal of hospital infection* 110: 184-193
547. Zhao S, Perry MR, Kennedy S, Wilson J, Chase-Topping ME, Anderson E, Lockhart MC, Woolhouse MEJ (2021b) Risk factors for carbapenemase-producing organisms among inpatients in Scotland: A national matched case-control study. *Infection control and hospital epidemiology* 42: 968-977
548. Zhu K, Jin X, Chi Z, Chen S, Wu S, Sloan RD, Lin X, Neculai D, Wang D, Hu H et al (2021a) Priming of NLRP3 inflammasome activation by Msn kinase MINK1 in macrophages. *Cell Mol Immunol* 18: 2372-2382
549. Zhu S, Choudhury NR, Rooney S, Pham NT, Koszela J, Kelly D, Spanos C, Rappaport J, Auer M, Michlewski G (2021b) RNA pull-down confocal nanoscanning (RP-CONA) detects quercetin as pri-miR-7/HuR interaction inhibitor that decreases α-synuclein levels. *Nucleic Acids Res* 49: 6456-6473