

Edward C. Holmes

Curriculum Vitae

Personal Information

- Full Name: Edward Charles Holmes
- Date of Birth: 26th February 1965
- Nationality: Dual British and Australian citizen

Address

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- Websites:
 - <http://sydney.edu.au/medicine/people/academics/profiles/edward.holmes.php>
 - <http://sydney.edu.au/science/biology/viralevolution/index.shtml>
 - https://en.wikipedia.org/wiki/Edward_C._Holmes
 - <https://scholar.google.com.au/citations?hl=en&imq=Edward+C+Holmes&user=Syrp1IMAAAAJ>

Current Appointments

- 2019-Present: Honorary Visiting Professor, Fudan University, Shanghai, China.
- 2018-Present: ARC Australian Laureate Fellow and Professor, The University of Sydney, Australia.
- 2015-Present: Adjunct Member, The Westmead Institute for Medical Research, Sydney, Australia.

Previous Appointments

- 2014-2020 Guest Professor, Chinese Center for Disease Control and Prevention, Beijing, China.
- 2012-2017: NHMRC Australia Fellow and Professor, The University of Sydney, Australia.
- 2012: Verne M. Willaman Chair in the Life Sciences, The Pennsylvania State University, University Park, PA, USA.
- 2009-2020: Member, The Center for Infection and Immunity, Columbia University, New York, NY, USA.
- 2007-2012: Eberly College of Science Distinguished Senior Scholar, The Pennsylvania State University, University Park, PA, USA.
- 2006-2013: Affiliate member, Fogarty International Center, National Institutes of Health, Bethesda, MD, USA.
- 2005-2012: (Full) Professor of Biology, The Pennsylvania State University, University Park, PA, USA.
- 1999-2004: University Lecturer in Evolutionary Biology, University of Oxford, UK.
- 1999-2004: Tutorial Fellow in Biological Sciences, New College, Oxford, UK.
- 1994-2002: Royal Society University Research Fellow, University of Oxford, UK.
- 1994-1998: Fellow by Special Election of St. Catherine's College, Oxford, UK.
- 1994-1997: Wellcome Trust Fellow in Biodiversity Research, University of Oxford, UK.

- 1993-1994: Postdoctoral research (SERC funded) with Prof. PH Harvey, FRS, Department of Zoology, University of Oxford, UK.
- 1991-1993: Postdoctoral research (MRC funded) with Dr. AJ Leigh Brown, Institute of Cell, Animal and Population Biology, University of Edinburgh, UK.
- 1990-1991: Postdoctoral research with Dr. CH Langley, Department of Genetics, University of California, Davis, USA.

Qualifications

- 1990: *Ph.D.*, Department of Zoology, University of Cambridge, UK; Thesis entitled '*Pattern and Process in the Molecular Evolution of the Order Primates*'. Supervisor: Dr. AE Friday.
- 1986: *B.Sc.* in Anthropology, University of London (University College), UK. First Class Honours.

Awards and Honours

- 2021: 2021 General Symbiont Award (with Prof. Yong-Zhen Zhang). Sponsored by The Wellcome Trust.
- 2020: NSW Premier's Prize for Science and Engineering.
- 2017: Fellow, The Royal Society (FRS).
- 2017: Australian Laureate Fellow, Australian Research Council (ARC).
- 2017: NSW Premier's Prize for Science and Engineering (Biological Sciences).
- 2017: Fellow, The Royal Society of New South Wales.
- 2015: Fellow, Australian Academy of Science (FAA).
- 2011: Australia Fellow, National Health and Medical Research Council (NHMRC).
- 2010: Fogarty International Center Director's Merit Award to the Multinational Influenza Seasonal Mortality Study Team (MISMS). National Institutes of Health, USA.
- 2010: Faculty Scholars Medal in the Life and Health Sciences. The Pennsylvania State University, USA.
- 2008: Kavli Fellow, National Academy of Sciences, USA.
- 2003: Scientific Medal. Zoological Society of London, UK.

Seminars (Selected; Invited Speaker, Keynote Speaker, Plenary Lecturer), 2016-2021

- 2021: 3rd International Conference of the European College of Veterinary Microbiology. Bari, Italy (online).
- 2021: Emerging Infectious Diseases (EID) Zoom Seminar Series. Duke-NUS Singapore. Singapore (virtual).
- 2021: Kester Brown Lecture: Conjoint Australian Society of Anaesthetists National Scientific Congress and Queensland Anaesthesia Continuing Education Meeting. Brisbane, Australia.
- 2021: World Society for Virology. Helsinki, Finland (virtual).
- 2021. International Society for Neurovirology (ISNV). San Francisco, USA (virtual).
- 2021: Rubbo Orator, Annual Scientific Meeting of the Australian Society for Microbiology. Melbourne, Australia.
- 2021: Applied Bioinformatics & Public Health Microbiology 2021 Virtual conference. Wellcome Genome Campus, Hinxton, UK (virtual).
- 2021: National Research Program of the Swiss National Science Foundation. Geneva, Switzerland (virtual).
- 2021: Viral EcoGenomics and Applications (VEGA) conference hosted by the Joint Genome Institute. San Francisco, USA (virtual).
- 2021. New South Wales Chief Scientist's breakfast seminar. Sydney, Australia.
- 2021: SCIFIC conference: Understanding viral diseases in animals and food. Los Angeles, USA (virtual).
- 2021: Faculty of Public Health: Reflections on the COVID-19 pandemic. London, UK (virtual).
- 2021: Advances in Genome Biology and Technology (AGBT) 2021. Orlando, USA (virtual).

- 2021: Verena Forum on Zoonotic Risk Technology. Washington DC, USA (virtual).
- 2020: NYU Computational Biology and Medicine Colloquium. New York, USA (virtual).
- 2020: University of Hong Kong 25th Research Postgraduate Symposium. Hong Kong (virtual).
- 2020: International Union of Microbiological Societies (IUMS 2020). Daejeon, Korea (virtual).
- 2020: Global Virome Network, 2020 Annual Meeting. Baltimore, USA (virtual).
- 2020: Festival della Scienza Medica – *Genus Bononiae*. Bologna, Italy (virtual).
- 2020: Italian Federation of Life Sciences (FISV). Virtual FISV Symposium on SARS-CoV-2 Biology and COVID-19. Rome, Italy (virtual).
- 2020: Isaac Newton Institute for Mathematical Sciences. Future Pandemics. Cambridge, UK (virtual).
- 2020: AGTA Live, COVID-19 Special Meeting. Gold Coast, Australia (virtual).
- 2020: VetFest 2020 Gold Coast, Australia (virtual).
- 2020: One Health Platform. Managing a raging pandemic: a steep learning curve. Amsterdam, The Netherlands (virtual).
- 2020: Microbiology Society Annual Conference, Fleming Showcase. Edinburgh, UK (virtual).
- 2020: Keystone Symposia Conference. The Global in Health and Disease. Lake Tahoe, USA.
- 2020: 30th Challenge in Virology. Grindelwald, Switzerland.
- 2020: New Zealand Microbial Ecology Consortium (NZMEC2020). Auckland, New Zealand.
- 2019: Eighty years of the Archives of Virology. Vienna, Austria.
- 2019: Society for Molecular Biology and Evolution. Manchester, UK.
- 2019: Symposium on View to the Future for Public Health and Personalised Infectious Disease Care. Melbourne, Australia.
- 2019: 2nd Symposium Geneva Centre for Emerging Viral Diseases. Geneva, Switzerland.
- 2019: International Conference on Influenza and Other Infections. Tokyo, Japan.
- 2018: XXIV Congress of the Latin American Association of Microbiology. Santiago, Chile.
- 2018. Skerman Lecture, University of Queensland, Australia.
- 2018: Institut Pasteur conference on Emerging Infections and Pandemic Risk. Institut Pasteur, Paris, France.
- 2018. Influenza 2018: Centenary of the 1918 Pandemic. Francis Crick Institute, London, UK.
- 2018: ASM Microbe, American Society for Microbiology. Atlanta, USA.
- 2018: ASID Annual Scientific Meeting 2018. Gold Coast, Australia.
- 2017: 3rd One Health Aotearoa Symposium. Wellington, New Zealand.
- 2017: 12th International Congress on Genomics. Shenzhen, China.
- 2017: 2017 Australian Tropical Health Conference. Cairns, Australia.
- 2017: International Union of Microbiological Societies. Singapore.
- 2016: 4th International One Health Congress. Melbourne, Australia.
- 2016: 16th Asia Pacific Congress of Clinical Microbiology and Infection. Melbourne, Australia.
- 2016: 12th Mosquito Control Association of Australia and 9th Arbovirus Research in Australia. Gold Coast, Australia.
- 2016: Wellcome Trust Scientific Conference on Virus Genomics and Evolution. Wellcome Genome Campus, Hinxton, UK.

Teaching and Mentoring

- 2009: Taught module on ‘Evolutionary Inference and Infectious Disease Phylodynamics’ as part of the ‘Summer Institutes in Statistics and Modelling in Infectious Diseases’, University of Washington, Seattle.
- 2007, 2009, 2011, 2021: Contributed lectures on viral evolution to ‘The Rockefeller University Virology Course’. The Rockefeller University, New York.
- 2005-2012: Course organiser – ‘The Evolution of Infectious Disease’ at The Pennsylvania State University.
- 1994-2004: Lecturer, and eventually course organiser – ‘Evolution & Systematics’, University of Oxford.

- 1999-2004: Tutorial Fellow in Biological Sciences, New College, Oxford. Tuition in many aspects of biological science, most notably evolutionary biology and infectious disease biology.
- 1994-Present: Supervision of 35 graduate students (BBSRC, NSERC, Rhodes Trust, Wellcome Trust, NIH, NSF, NHMRC, ARC, APA and start-up grant funded).
- 2005-Present: Mentoring (and funding) of 30 postdoctoral fellows.
- 1989-Present: Lecturing, particularly in evolutionary biology, population genetics, the ecology and evolution of infectious disease and virology, to undergraduate, masters and postgraduate students at the universities of Cambridge, California (Davis), Edinburgh, Oxford, Penn State and Sydney.

Professional Service

- Editor, *Oxford Bibliographies in Evolutionary Biology* (2012-2014).
- Editor, *Epidemics* (2007-2008).
- Associate Editor and Section Editor, *PLoS Pathogens* (2006-2009).
- Associate Editor, *Molecular Biology & Evolution* (2000-2009).
- Editorial Board, *Cell Host & Microbe* (2020-present).
- Editorial Board, *One Health* (2015-2017).
- Editorial Board, *Philosophical Transactions of the Royal Society Series B* (2013-2019).
- Editorial Board (and founding member), *Annual Reviews of Virology* (2012-2013).
- Editorial Board, *Evolutionary Medicine and Public Health* (2012-2014).
- Editorial Board, *Current Opinion in Virology* (2010-present).
- Editorial Board, *Journal of Virology* (2007-present).
- Editorial Board, *Virology* (2006-present).
- Editorial Board, *Journal of General Virology* (1997-2002; 2007-2012).
- Editorial Board, *Journal of Evolutionary Biology* (1995-2000).
- Honorary Editor, *Evolutionary Bioinformatics* (2005-2008).
- Chief Moderator (and co-founder), *PLoS Currents: Influenza* (2009-2012).
- Member, *American Society for Microbiology* (2005-present).
- Member, International Consultant Committee for Global Public Health (ICCGPH), China CDC, Beijing.
- Member, Global Virus Network (GVN).
- Member, Scientific Advisory Board, 'Area of Excellence on the Control of Pandemic an Inter-Pandemic Influenza'. University of Hong Kong (2008).
- Member, Advisory Council, Department of Ecology & Evolution, Princeton University (2011).
- Member, *Faculty of 1000 Biology* (2006-2008; resigned).
- Member of Royal Society working group on the safety of GM plants for food use (2001).
- Organizing Committee, 'Options for the Control of Influenza' conference (meetings VII and VIII).
- Scientific Advisory Committee, NHMRC CRE in Infectious Diseases Modelling to Inform Policy (2015-present).
- Steering Committee, Ramaciotti Centre for Genomics (2013-2019).
- Chair, NSW Public Health Pathogen Genomics Core Group (2016-2017).
- Expert witness, Strathboss Kiwifruit versus Attorney-General, New Zealand. High Court, Wellington, New Zealand (2017).
- Peer review for *Nature*, *Science*, *Nature Genetics*, *Nature Medicine*, *Nature Microbiology*, *Nature Reviews Genetics*, *Nature Reviews Microbiology*, *PLoS Biology*, *PLoS Computational Biology*, *PLoS Genetics*, *PLoS Pathogens*, *Proceedings of the National Academy of Sciences USA*, *Journal of Virology*, *Genetics*, *Genome Research*, *Molecular Biology & Evolution*, *Molecular Microbiology*, *EMBO J*, *Journal of Molecular Evolution*, *Virology*, *Journal of General Virology*, *AIDS Research and Human Retroviruses*, *American Journal of Tropical Medicine & Hygiene*, *Proceedings of the Royal Society of London Series B*, *Bioinformatics*, *mBio*, *Virus Research*, *Archives of Virology*, *Trends in Genetics*, *Trends in Microbiology*, *Trends in Ecology & Evolution*.

Research Grants

Active

- 2021-2026: A single dose, globally accessible vaccine to combat emerging SARS-CoV-2 variants. Co-CI (CI, Prof. J. Triccas, University of Sydney). Medical Research Future Fund. APP2007221. \$1,500,000.
- 2021-2026: Institute of Data Discovery for Health (D²4H). Co-CI (CI, Prof. G. Leung, University of Hong Kong). Innovation and Technology Commission, Hong Kong. \$1,149,852.
- 2020-2023: Revealing the determinants of viral emergence and evolution in fish. CI. ARC. Discovery Project. DP200102351. \$558,470.
- 2020-2021: Commonwealth Department of Agriculture, Water and the Environment. CI, Holmes EC. Transforming biosecurity in Australia with metagenomics. \$200,000.
- 2018–2022: Redefining virus ecology and evolution. CI. ARC. Australia Laureate Fellowship. FL170100022. \$3,402,903.
- 2018–2021: Using metagenomics to determine the causative agent(s) of tick-borne disease in Australia. CI. NHMRC. Project Grant. GNT1139473. \$639,428.

Submitted

- 2022-2025: A metagenomic framework to identify zoonotic viruses in Australia. CI. NHMRC. Project Grant. APP2012806. \$551,798.

Completed

- 2016-2021. Centre of research excellence in protecting the public from emerging infectious diseases. Co-CI (CI, Prof. T. Sorrell, University of Sydney). NHMRC. Centre of Research Excellence. GNT1102962. \$2,500,000.
- 2016–2021: The evolutionary and biological bases of host switching in viruses. Co-CI (CI, Prof. C. Parrish, Cornell University). National Institutes of Health (NIGMS). Grant 2 R01 GM080533. \$1,768,591 USD.
- 2018–2020: Halting the re-emergence of fatal feline panleukopenia: the role of parvoviral variants and viral co-pathogens in clinical disease in shelter cats. Co-CI (CI, Prof. V. Barrs, University of Sydney). Morris Animal Foundation (USA). \$100,862.
- 2016-2020: The genetic basis of pathogen blocking: elucidating the contributions of the *Wolbachia*, dengue virus and mosquito genomes. Co-CI (CI, Dr. E. McGraw, Monash University). NHMRC. Project Grant. GNT1103804. \$736,338.80.
- 2016-2020: The phylodynamics of human enteroviruses: informing vaccine effectiveness and outbreak preparedness. CI. NHMRC. Project Grant. GNT1099618. \$564,867.70.
- 2016-2019: Making Green Guard® greener: enhancing the efficacy of a biopesticide. Co-CI (CI, Prof. S. Simpson, University of Sydney). ARC. Linkage Project. LP150100479. \$385,000.
- 2016-2018: Genomic dissection and prevention of bacterial transmissions events. Co-CI (CI, Dr. V. Sintchenko, University of Sydney). NHMRC. Project Grant. GNT1103804. \$891,290.
- 2016-2018: Revealing the evolutionary and ecological dynamics of avian influenza virus. CI. ARC. Discovery Project. DP160102146. \$534,100.
- 2014-2017: Defining the evolution of pathogen virulence to enhance rabbit control. CI. ARC. Discovery Project. DP140103362. \$595,000.
- 2014-2016: Cluster-randomised controlled trial to test the effectiveness of facemasks in preventing influenza, corona and other respiratory viruses among Hajj pilgrims. Co-CI (CI, Dr. H. Rashid, The Children's Hospital at Westmead). The Qatar National Research Fund. \$782,812.28.
- 2012–2016: Genomic analysis of the canonical case of virulence evolution: myxomatosis in Australia. CI. National Institutes of Health (NIAID). Grant R01 AI093804-01A1. \$2,806,103 USD.

- 2016. Zika: Open genomic surveillance of Zika virus in Brazil using a novel portable real-time sequencing device. Co-CI (CI, Dr. N. Loman, University of Birmingham, UK). Medical Research Council (UK). (ZK/16-078). £100,000 UKP.
- 2015: PacBio long read sequencer for the Ramaciotti Genomics Consortium of NSW. Co-CI (CI, Dr. M. Wilkins, University of New South Wales). ARC. Linkage Infrastructure. LE150100031. \$630,000.
- 2015. Exploiting genomics to understand pathogen evolution in external infection transmission/evolution and within the normal, obese and immunosuppressed host. Co-CI (CI, Dr. T. Cunningham, University of Sydney). University of Sydney HMR+ Implementation Fund. \$153,913.
- 2014-2017: Black Death genomics and the evolution of pathogen virulence. CI. NHMRC. Project Grant. GNT1065106. \$510,129.50.
- 2014-2015: Towards a real time data sharing to support patient-centred care, quality health delivery, improvement programmes, performance management and research. Co-CI (CI, Dr. J. Morris, The Kolling Institute, Royal North Shore Hospital). Office for Health and Medical Research, Government of New South Wales. \$500,000.
- 2014–2015: Genomic sequencing centers for infectious diseases. Subcontractor (PI, The J. Craig Venter Institute). National Institutes of Health (NIAID). Contract U19AI110819. \$16,200 USD.
- 2013–2016: Genetic variability of non-segmented negative-sense RNA virus populations and host adaptation. Co-CI (PI, Dr. H. Bourhy, Institut Pasteur, Paris, France). Agency National de la Recherche (ANR). No financial support received.
- 2012–2017: Australia Fellowship. CI. NHMRC. GNT1037231. \$4,000,000.
- 2012–2016: The evolutionary and biological bases of host switching in viruses. PI. National Institutes of Health (NIGMS). Grant 2 R01 GM080533. \$1,004,763 USD.
- 2010–2013: Genomic sequencing centers for infectious diseases. Subcontractor (PI, The J. Craig Venter Institute). National Institutes of Health (NIAID). Contract HHSN272200900007C. \$37,752 USD.
- 2010–2012: ARRA: Penn State: ABSL-3 Facility Construction. Consortium investigator. NIH/NCRR (American Recovery and Reinvestment Act). \$14,830,000 (total, all investigators) USD.
- 2009–2012: Detecting homology in the ‘twilight zone’ of sequence similarity. Co-PI (PI, Dr. R. Patterson, University of California, Davis). National Institutes of Health (NIGMS). Grant R01 GM087410. \$157,070 USD.
- 2009–2013: Fitness and virulence of dengue virus in the context of changing host immunity. Co-PI (PI, Dr. E. Harris, The University of California, Berkeley). National Institutes of Health (NIGMS). Grant R01 GM087405. \$135,040 USD.
- 2008–2013: Dengue vaccine and viral evolution in rural Thailand. Co-PI (PI, Dr. T.P. Endy, The State University of New York). National Institutes of Health (NIAID). Grant R01 GM083224. \$89,988 USD.
- 2008–2013: Evaluation of candidate vaccine technologies using computational models. Sub-contractor. (PI, Dr. D. Burke, The University of Pittsburgh). Bill & Melinda Gates Foundation. Grant 705580-04. No financial support received.
- 2008–2012: Synthesizing the evolutionary and ecological dynamics of acute RNA viruses: comparative analyses and method development. Co-PI (PI, Prof. B.T. Grenfell, Princeton University). National Institutes of Health (NIGMS). Grant R01 GM083983. No financial support received.
- 2008–2012: Emergence of human pathogens in the genus *Bordetella*. Co-PI (PI, Dr. E.T. Harvill, The Pennsylvania State University). National Institutes of Health (NIGMS). Grant R01 GM083113. No financial support received

- 2008–2011: Population dynamics of arboviruses. Co-PI (PI, Dr. J. Aaskov, Queensland University of Technology). National Health and Medical Research Council, Australia. Grant 497203. No financial support received.
- 2007–2012: The evolutionary and biological bases of host switching in viruses. PI. National Institutes of Health (NIGMS). Grant R01 GM080533. \$1,364,796 USD.
- 2006–2010: Intergovernmental Personnel Act (IPA) from National Institutes of Health (FIC). \$146,794 USD.
- 2004–2007: A comparative genomics approach to investigating the origins and evolution of RNA viruses. The Wellcome Trust. (Advanced Training Fellowship for Dr. B. Shapiro). Grant 74717. £158,999 UKP.
- 2003–2006: An experimental and phylogenetic approach to understanding RNA virus evolution. The Wellcome Trust. Grant 71979. £242,643 UKP.
- 2003–2004: The evolutionary epidemiology of sylvatic yellow fever and dengue viruses. The Wellcome Trust. Grant 69552. £120,906 UKP.
- 2002–2005: A bioinformatics analysis of immune escape and viral persistence in hepatitis C virus (with Dr. P. Klenerman). The Wellcome Trust. (Prize studentship). Grant 68610. £105,521 UKP.
- 2002–2005: The population genetics of molecular adaptation in viral pathogens. The Wellcome Trust. (Biodiversity Junior Fellowship for Dr. O. Pybus). Grant 66889. £147,469 UKP.
- 2002–2005: A comparative study of HIV-1 subtypes B and C and the evolution of viral fitness and co-receptor usage (with Dr. L. Morris). The Wellcome Trust. (Biodiversity studentship). Grant 67502. £76,443 UKP.
- 2001–2004: Antigenic evolution in acute human immunodeficiency virus infection: impact of potent anti-viral drugs (with Prof. R.E. Phillips). The Wellcome Trust. (Prize studentship). Grant 65997. £116,541 UKP.
- 2001–2004: The molecular epidemiology of bat lyssaviruses in Europe. The Wellcome Trust (Biodiversity studentship). Grant 64398. £67,279 UKP.
- 2000–2003: The molecular archaeology of *Yersinia pestis* (with Dr. A. Cooper). The Wellcome Trust (Bioarchaeology studentship). Grant 61610. £80,022 UKP.
- 1999–2001: Revealing evolutionary processes from bacterial gene sequences (with Prof. B.G. Spratt). The Wellcome Trust (Prize studentship). Grant 58789. £57,231 UKP.
- 1999–2002: Understanding primate lentivirus (HIV/SIV) diversity. The Wellcome Trust. (Biodiversity Junior Fellowship for Dr. D.L. Robertson). Grant 57073. £105,000 UKP.
- 1998–2001: Evolutionary aspects of recombination in RNA viruses. The Wellcome Trust (Prize studentship). Grant 55819. £54,000 UKP.
- 1998–2001: Revealing the population genetic structure of dengue virus in Viet Nam. The Wellcome Trust (Biodiversity studentship). Grant 54231. £72,000 UKP.
- 1997–2002: Inferring epidemic processes from gene sequences (with Prof. P.H. Harvey). The Wellcome Trust (programme grant). Grant 50275. £430,000 UKP.
- 1995–1998: Automated analysis of gene sequence data banks to reveal the evolutionary and population processes responsible for genetic diversity (with Prof. P.H. Harvey & Dr. S. Nee). BBSRC (Bioinformatics initiative). £125,000 UKP.
- 1995–1998: Inferring population processes from phylogenetic trees (with Dr. S. Nee & Prof. P.H. Harvey). BBSRC (UK). £100,000 UKP.
- 1995: The molecular epidemiology of HIV and HCV in Thailand. The Royal Society. £9,500 UKP.
- 1994–1998: The development of a phylogenetic approach to the molecular epidemiology of viruses. The Wellcome Trust. Grant 41888. £110,000 UKP.
- 1991–1993: Phylogenetic analysis of HIV sequence change within a local infected community (with Dr. A.J. Leigh Brown). Medical Research Council (UK).

Publications

Metrics Summary (Google Scholar)

- Peer reviewed papers = 654
- Citations = 96,749
- h-index = 148
- i10-index = 591

Books

- **Holmes EC.** (2009). *The Evolution and Emergence of RNA Viruses*. Oxford Series in Ecology and Evolution (OSEE). Series edited by PH Harvey & RM May. Oxford University Press, Oxford. ISBN. 978-0-19-921112-8.
- Page RDM & **Holmes EC.** (1998). *Molecular Evolution: A Phylogenetic Approach*. Blackwell Science Ltd, Oxford. ISBN 0-86542-889-1.

Peer Reviewed Journal Articles

In Press

- Duchêne S, Featherstone L, Freiesleben de Blasio B, **Holmes EC**, Bohlin J & Pettersson JH-O. The impact of early public health interventions on SARS-CoV-2 transmission and evolution. *Eurosurveillance*. In Press.
- Ortiz-Baez AS, Shi M, Hoffmann AA & **Holmes EC**. RNA virome diversity and Wolbachia infection in individual *Drosophila simulans* flies. *J.Gen.Virol.* In Press.

Published

654. Adelino TER, Giovanetti M, Fonseca V, Xavier J, de Abreu AS, do Nascimento VA, Demarch LHF, Oliveira MAA, da Silva VL, de Mello ALS, Cunha GM, Santos RH, de Oliveira EC, Júnior JAC, de Melo Iani FC, de Filippis AMB, de Abreu AL, de Jesus R, de Albuquerque CFC, Rico JM, do Carmo Said RF, Silva JA, de Moura NFC, Leite P, Frutuoso LCV, Haddad SK, Martínez A, Barreto FK, Vazquez CC, da Cunha RV, Araújo ELL, de Oliveira Tosta SF, de Araújo Fabri A, Flávia Löwen Chalhoub L, da Silva Lemos P, de Bruycker-Nogueira F, de Castro Lichs GG, Zardin MCSU, Segovia FMC, Gonçalves CCM, Grillo ZDCF, Slavov SN, Pereira LA, Mendonça AF, Pereira FM, de Magalhães JJF, dos Santos Júnior ACM, de Lima MM, Nogueira RMR, Neto AG, de Carvalho Azevedo VA, Ramalho DB, Oliveira WK, de Medeiros AC, Pimentel V, Latin American Genomic Surveillance Arboviral Network, **Holmes EC**, de Oliveira T, Lourenço J & Alcantara LCJ. (2021). Field and classroom initiatives for portable sequence-based monitoring of dengue virus in Brazil. *Nat.Comm.* **12**, 2296.
653. Alfsnes A, Lagerqvist N, Vene S, Bohlin J, Verner-Carlsson J, Ekqvist D, Bråve A, **Holmes EC**, Shi W & Pettersson JH-O. (2021). Retrospective meta-transcriptomic identification of severe dengue in a traveller returning from Africa to Sweden, 1990. *One Health* **12**, 100217.
652. Barnard KN, Wasik BR, Alford-Lawrence BK, Hayward JJ, Weichert W, Voorhees IEH, **Holmes EC** & Parrish CR. (2021). Sequence dynamics of three influenza A virus strains grown in different MDCK cell lines, including those expressing different sialic acid receptors. *J.Evol.Biol.* Epub 11 Jun. [https://doi: 10.1111/jeb.13890](https://doi.org/10.1111/jeb.13890).
651. Chandra S, Harvey E, Emery D, **Holmes EC** & Šlapeta J. (2021). Unbiased characterization of the microbiome and virome of questing ticks. *Front.Microbiol.* **12**, 627327.
650. Chappell JG, Tsoleridis T, Clark G, Louise Berry, Holmes N, Moore C, Carlile M, Sang F, Debebe J, Wright V, Irving W, Thomson BJ, Boswell TCJ, Willingham I, Joseph A, Smith W, Khakh M, Fleming WM, Lister MM, Howson-Wells HC, **Holmes EC**, Loose MW, Ball JK, McClure CP and the COVID-19 Genomics UK consortium study group. (2021). Retrospective screening of routine respiratory samples revealed undetected community transmission and missed intervention opportunities for SARS-CoV-2 in the United Kingdom. *J.Gen.Virol.* **102**, [https://doi: 10.1099/jgv.0.001595](https://doi.org/10.1099/jgv.0.001595).

649. Costa VA, Mifsud JCO, Gilligan D, Williamson JE, **Holmes EC** & Geoghegan JL. (2021). Metagenomic sequencing reveals a lack of virus exchange between native and invasive freshwater fish across the Murray-Darling Basin, Australia. *Virus Evol.* **7**, veab034.
648. Di Giallonardo F, Puglia I, Curini V, Cammà C, Mangone I, Calistri P, Cobbin JCA, **Holmes EC** & Lorusso A. (2021). Emergence and spread of SARS-CoV-2 lineages B.1.1.7 and P.1 in Italy. *Viruses* **13**, 794.
647. Di Teodoro G, Valleriani F, Puglia I, Monaco F, Di Pancrazio C, Luciani M, Krasteva I, Petrini A, Maracci N, D'Alterio N, Curini V, Iorio M, Migliorati G, Di Domenico M, Morelli D, Calistri P, Savini G, Decaro N, **Holmes EC** & Lorusso A. (2021). SARS-CoV-2 efficiently replicates in respiratory *ex vivo* organ cultures of domestic ruminant species. *Vet.Micro.* **252**, 108933.
646. Featherstone LA, Di Giallonardo F, **Holmes EC**, Vaughan TG & Duchêne S. (2021). Infectious disease phylodynamics with occurrence data. *Meth.Ecol.Evol.* Epub 24 April, <https://doi.org/10.1111/2041-210X.13620>.
645. Geoghegan JL, Di Giallonardo F, Wille M, Ortiz-Baez AS, Costa V, Ghaly T, Misfud J, Turnbull P, Bellwood DR, Williamson JE & **Holmes EC**. (2021). Virome composition in marine fish revealed by meta-transcriptomics. *Virus Evol.* **7**, veab005.
644. Geoghegan JL, Douglas J, Ren X, Storey M, Hadfield J, Silander OK, Freed NE, Jelley L, Jefferies S, Sherwood J, Paine S, Huang S, Sporle A, Baker MG, Murdoch DR, Simpson CR, Drummond AJ, Welch D, French N, **Holmes EC** & de Ligt J. (2021). Use of genomics to track coronavirus disease outbreaks, New Zealand. *Emerg.Infect.Dis.* **27**, 1317-1322.
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