

KATE BAKER

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Infectious disease researcher

EDUCATION

From	To	University	Subject	Award
10/2016	04/2019	University of Liverpool	Certificate of Professional Studies	FHEA
09/2008	11/2012	University of Cambridge	Veterinary Medicine	PhD
02/2003	12/2006	University of Melbourne	Veterinary Science	BVSc (2:1)

EMPLOYMENT

From	To	Position	Organisation
10/2016	Present	Wellcome Trust Clinical Research Career Development and Tenure Track Fellow	University of Liverpool
04/2013	10/2016	Postdoctoral Fellow	Wellcome Trust Sanger Institute
03/2010	03/2013	Wellcome Trust Clinical Research Training Fellow	University of Cambridge and Zoological Society of London
09/2008	01/2010	Junior Research Fellow	Cambridge Infectious Diseases Consortium
12/2006	08/2008	Clinical Veterinarian	Animal Emergency Centre

CAREER BREAKS

From	To	Reason
01/2018	10/2018	Maternity leave
07/2015	04/2016	Maternity leave

GRANT AWARDS

From	To	Grant	Award (£)
<i>Principal Investigator/Research Fellowships</i>			
01/2019	01/2022	Medical Research Council New Investigator Research Grant <i>Informing shigellosis treatment and management in resource-poor settings with pathogen genomics</i>	394,414
08/2017	08/2021	Academy of Medical Sciences Springboard Award <i>Multi-species models of antimicrobial resistance emergence and persistence, developed from real-world epidemics</i>	99,734
04/2017	10/2017	University of Liverpool Technology Directorate Voucher Scheme <i>Pathogen evolution over the course of chronic dysentery infection</i>	5,266
10/2016	06/2021	Wellcome Trust Clinical Career Development Fellowship <i>Mathematical modelling frameworks for incorporating bacterial genomics into antimicrobial stewardship</i>	235,508
03/2010	03/2013	Wellcome Trust Clinical Research Training Fellowship <i>Evolutionary and transmission dynamics of henipavirus infection in the African straw-coloured fruit bat</i>	263,650
<i>Co-investigator</i>			
01/2018	01/2021	EPSRC Newton GCRF fund <i>The chicken or the egg: dissemination of antimicrobial resistance in poultry in India (DARPI)</i>	1,864,850
10/2016	10/2018	GCRF NIB Data and Resources <i>Transmission of Salmonella in Africa</i>	195,190
10/2016	04/2017	P2D@Liverpool support for early academia-industry collaboration <i>Real-time genomics sequencing for point of care antimicrobial resistance assessment</i>	17,626

KEY PUBLICATIONS

[Google scholar](#) Summary: 45 publications (17 lead-author), h-index 18, 1102 citations
Highlighted below are 10 (combination lead and final author)

Year	Title	Journal
2019	Looking backwards to move forwards: the utility of sequencing historical bacterial genomes	Journal of Clinical Microbiology
2018	Horizontal antimicrobial resistance transfer drives epidemics of multiple <i>Shigella</i> species	Nature Communications
2018	Genomic epidemiology of <i>Shigella</i> in the United Kingdom shows transmission of pathogen sublineages and determinants of antimicrobial resistance	Scientific Reports
2017	Whole genome sequencing of <i>Shigella sonnei</i> through PulseNet Latin America and Caribbean: advancing global surveillance of foodborne illness	Clinical Microbiology and Infection
2016	Travel- and community-based transmission of multidrug resistance <i>Shigella sonnei</i> lineage among international Orthodox Jewish communities	Emerging Infectious Diseases
2015	Intercontinental dissemination of azithromycin-resistance shigellosis through sexual transmission: a cross-sectional study	The Lancet Infectious Diseases
2015	The Murray collection of pre-antibiotic era <i>Enterobacteriaceae</i> : a unique research resource	Genome Medicine
2015	Species-wide whole genome sequencing reveals historical global spread and recent local persistence in <i>Shigella flexneri</i>	eLife
2014	The extant World War 1 dysentery bacillus NCTC1: a genomic analysis	The Lancet
2014	Viral antibody dynamics in a chiropteran host	Journal of Animal Ecology
2013	Novel, potentially-zoonotic paramyxoviruses from the Africa straw-coloured fruit bat, <i>Eidolon helvum</i>	Journal of Virology

AWARDS AND PERSONAL DISTINCTIONS

Year	Award	Awarding body
2019	Most promising early career researcher	Institute for Integrative Biology, University of Liverpool

ROLES IN THE SCIENTIFIC COMMUNITY

From	To	Role
<i>Conference organisation</i>		
2017	2019	Organising committee, Genome Science (UK-based ~200 delegates)
2016	2019	Session organiser and chair, Genome Science conference
2017		Session chair, Microbiology Society Annual conference
<i>Publication/Grant-related</i>		
2019	Current	Editor, Microbial genomics
2017	Current	Grant reviewer, Multiple funders: Wellcome Trust, French National Association
2015	Current	Publication reviewer, Multiple journals including: Nature Ecology and Evolution, Nature Communications, Science Advances, Microbial Genomics, BMC Infectious Diseases, Molecular Ecology
<i>Memberships (role, organisation)</i>		
2019	Present	Member, BactiVac network
2017	2019	Champion, Microbiology Society
2013	Present	Master of the Royal College of Veterinary Surgeons
2016	Present	Member, Society for Applied Microbiology
2009	Present	Member, Microbiology Society

INVITED PRESENTATIONS

Date	Location	Event
Jul 2019	New Hampshire, UK	Gordon Research Conference, Microbiology Population Biology
Jul 2019	Boston, USA	Microbial Sciences Initiative seminar, Harvard University
May 2019	Birmingham, UK	Institute for Microbiology and Infection, Special Seminar
Apr 2019	Belfast, UK	Microbiology Society Annual General Meeting
Mar 2019	Hinxton, UK	Wellcome Trust Advanced Courses, Pathogen Genomes
Dec 2018	Doherty Institute, Australia	Special seminar, joint with University of Melbourne
Nov 2018	Kyoto, Japan	Society of Molecular Biology and Evolution 2 nd satellite workshop on Genome Evolution in Pathogen Transmission and Disease
Sep 2018	Washington DC, USA	American Society for Microbiology Next Generation Sequencing Conference (opening keynote)
Dec 2017	Sheffield, UK	University of Sheffield, Microbiology Seminar Series
Nov 2017	Cambridge, UK	University of Cambridge, Veterinary Medicine Seminar
Oct 2017	Hinxton, UK	Wellcome Trust Advanced Courses, Next Generation Sequencing Bioinformatics
Apr 2017	Edinburgh, UK	Microbiology Society Spring Meeting
Feb 2017	Surrey, UK	University of Surrey, Veterinary School seminar series
Apr 2016	London, UK	British Society for Microbial Technology Annual Meeting

INSTITUTIONAL LEADERSHIP/COLLABORATION

From	To	Role
2019	Present	Working group member, Cross-faculty Antimicrobial resistance network
2019		Organised hosting a local instance of the EMBO Laboratory Management Training Course including securing central funding, cross-faculty support and logistical organisation
2016	Present	Host-microbe theme representative, Institute for Integrative Biology Public Engagement Committee
2016	2019	Assist with organisation and have ongoing collaboration with exiting EPSRC-funded Liverpool Centre for Mathematics in Healthcare
2019	Present	Am involved (as co-investigator or potential supervisor) with several major external bids for University of Liverpool including: the next iteration of the EPSRC Liverpool Centre for Mathematics in Healthcare, the National Institute of Health Research Gastrointestinal Research Unit, and as Wellcome Trust PhD Programme.

TEACHING

From	To	Role
<i>Undergraduate/Coursework MSc teaching</i>		
2016	Present	LIFE708: Designed, developed and delivered MSc-level teaching block (4 lectures, 3 two-hour computational workshops) in Post-Genomic Bioinformatics module
2018	Present	LIFE355: Tutor, Bio-veterinary students (undergraduate) in Advanced Skills in Biological Sciences module
2018	Present	LIFE363: Laboratory supervisor, undergraduate Research Project
<i>Postgraduate teaching</i>		
2018	Present	Primary supervisor, BBSRC NLD DTP-funded student
2018	Present	Primary supervisor, MRC DiMeN DTP-funded student
2016	2018	Secondary supervisor to three PhD students (one each academic year)
2016	2018	IPAP assessor to five PhD students
<i>Wellcome Trust Advances Courses Teaching</i>		
2019		Opening lecture, Train the Trainer: Capacity building for genomic surveillance of AMR in LMICs

2019	Filmed interview for online Future Learn iteration of Working with Pathogen Genomes course from Wellcome Trust Advanced Courses
2016	Instructor, Wellcome Trust Advanced Courses, Working with Pathogen Genomes Course, Buenos Aires, Argentina
2015	Developed new teaching content (an entire day's worth) of problem-based collaborative learning for 25 participant special-skills course and instructor, Wellcome Trust Advanced Courses Genomics and Epidemiological Surveillance of Bacterial Pathogens, Costa Rica (this material is still used on the course), San Jose, Costa Rica
2014	Instructor, Wellcome Trust Advanced Courses Working with Pathogen Genomes, Hinxton, UK

OTHER MAJOR TRAINING

Date	Course
2013	Wellcome Trust Advanced Courses, Computational Molecular Evolution
2014	Wellcome Trust Advanced Courses, Mathematical Modelling of Infectious Disease

PUBLIC AND MEDIA ENGAGEMENT

Date	Activity
2017	Backstory to the Latin American public health surveillance project IIB blog
2016	Interviewed for (and quoted in) in New Scientist journal article
2015	Patience is a virtue for tolerant bacteria Sanger Institute blog
2015	Should we really be scared of bats? Sanger Institute blog
2014	Extensive media engagement surrounding a WWI commemorative genome-sequencing paper including coverage with print/online news media (e.g. New Scientist, the Telegraph), live radio interviews with BBC Cambridgeshire, the World Service and NPR, television interviews with ITV and BBC East. In-house press- released video for broadcast. Presentation to the Wellcome Trust board of governors.
2011	Core member <i>Bats and Bugs</i> stand, Royal Society Summer Science Exhibition