

DR GEORGE BUSBY

population & evolutionary geneticist

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EXPERIENCE

Product Manager Malaria Observatory

Big Data Institute, Oxford University

📅 May 2017 – Ongoing 📍 Oxford, UK

- Working to translate parasite and mosquito genomic data into action

Research Associate in Statistical Genomics

Wellcome Trust Centre for Human Genetics, Oxford University

📅 July 2013 – April 2017 📍 Oxford, UK

- Used genetics to characterise admixture and natural selection in African populations and demonstrated the ancestral history of the continent

Non-Stipendiary Lectureship in Human Sciences

St Hugh's College, Oxford University

📅 October 2014 – September 2015 📍 Oxford, UK

- Tutored undergraduates in genetics for Biological and Human Sciences and interviewed prospective students.

Graduate Research Assistant, Tutor and Demonstrator

Department of Zoology, Oxford University

📅 October 2008 – June 2013 📍 Oxford, UK

- Tutored and demonstrated in evolution, statistics and genetics for undergraduate Biological and Human Sciences

Conservation Genetics Research Technician

Institute of Zoology

📅 September 2007 – September 2008 📍 London, UK

- Developed research methods to investigate gene expression in wasps and bees

Risk Analyst

Risk Management Solutions

📅 September 2006 – September 2007 📍 London, UK

FUNDING

Creation of a play about big data and medicine

£12,500 Wellcome/Oxford University PE Grant

📅 July 2017

Development of a genetics card game *Cards against malaria*

£1,000 WCHG PE Grant

📅 Sept 2015

The Lone Wolf Project

I raised £20,000 and led an expedition to Ethiopia to study wolves

📅 Jun – Sept 2005

EDUCATION

D.Phil Human Evolutionary Genetics

Oxford University

📅 October 2008 – June 2012

M.Res Ecology Evolution and Conservation (Distinction)

Imperial College London

📅 October 2005 – September 2006

B.Sc (Hons) Zoology (1st Class)

University of Edinburgh

📅 October 2001 – July 2005

ADDITIONAL TRAINING

Science Innovation Plus

I attended an MBA module on Technology Innovation and Strategy

📅 2011 📍 Said Business School, Oxford

Building a Business Course

an introductory course on basic business understanding and fundamentals

📅 2010 📍 Said Business School, Oxford

AWARDS

Fellowship of the Royal Geographical Society

in recognition of previous expeditions

📅 2013 onwards

European Society of Human Genetics Scholarship

£1,000 to attend pre-conference workshop

📅 July 2011

Somerville College Scholarship

additional DPhil funding for highest ranked graduate applicant

📅 Oct 2008 – Sept 2011

Postgraduate Fellowship of the Royal Geographical Society

in recognition of undergraduate expedition leadership

📅 2007 – 2012

SCIENCE COMMUNICATION AND ENGAGEMENT

Cards against malaria

This is a card game for school children that describes the genetic basis of human resistance to malaria

📅 2016

Natural History Museum in London (*Science Lates*)

I led a group of scientists from the WTCHG at a public engagement event at the which involved describing malaria biology and genetics to interested members of the public

📅 2015

I co-hosted a *History Channel* documentary *The Jesus Strand*

We looked at the science behind the extraction of DNA from ancient relics

📅 2017

Consultant, Impossible Productions, Bond Street, London

I worked to develop a pre-production program proposal for a series on the genetics of the British (not commissioned)

📅 2011 (3 weeks)

Internship, BBC Media Centre, White City, London

I worked as a researcher on BBC human evolution program *Origins of Us*

📅 2010 (3 weeks)

PUBLICATIONS AND POPULAR WRITING

📄 Journal Articles

Busby, George B. J., Ryan Christ, Gavin Band, Ellen Leffler, Quang Si Le, Kirk Rockett, Dominic Kwiatkowski, and Chris Spencer (2017). "Inferring adaptive gene-flow in recent African history". In: *bioRxiv*. DOI: 10.1101/205252. URL: <http://biorxiv.org/content/early/2017/11/03/205252.abstract>.

Leffler, Ellen M., Gavin Band, Busby, George B. J., Katja Kivinen, Quang Si Le, et al. (2017). "Resistance to malaria through structural variation of red blood cell invasion receptors". en. In: *Science*, eaam6393. ISSN: 0036-8075, 1095-9203. DOI: 10.1126/science.aam6393. URL: <http://science.sciencemag.org/content/early/2017/05/17/science.aam6393> (visited on 05/19/2017).

Busby, George B. J., Gavin Band, Quang Si Le, Muminatou Jallow, Edith Bougama, et al. (2016). "Admixture into and within sub-Saharan Africa". In: *eLife* 5. Ed. by Joseph K Pickrell, e15266. ISSN: 2050-084X. DOI: 10.7554/eLife.15266. URL: <https://dx.doi.org/10.7554/eLife.15266>.

Hellenthal, Garrett, Daniel Falush, Simon Myers, David Reich, Busby, George B. J., Mark Lipson, Cristian Capelli, and Nick Patterson (2016). "The Kalash Genetic Isolate? The Evidence for Recent Admixture". English. In: *The American Journal of Human Genetics* 98.2, pp. 396–397. ISSN: 0002-9297. DOI: 10.1016/j.ajhg.2015.12.025. (Visited on 02/08/2016).

Montinaro, Francesco, Busby, George B. J., Miguel Gonzalez-Santos, Ockie Oosthuizen, Erika Oosthuizen, et al. (2016). "Complex ancient genetic structure and cultural transitions in southern African populations." In: *bioRxiv*. DOI: 10.1101/043562.

Busby, George B. J., Garrett Hellenthal, Francesco Montinaro, Sergio Tofanelli, Kazima Bulayeva, et al. (2015). "The Role of Recent Admixture in Forming the Contemporary West Eurasian Genomic Landscape". English. In: *Current Biology* 25.19, pp. 2518–2526. ISSN: 0960-9822. DOI: 10.1016/j.cub.2015.08.007. URL: <http://www.cell.com/article/S0960982215009495/abstract> (visited on 10/14/2015).

Cini, Alessandro, Solenn Patalano, Anne Segonds-Pichon, Busby, George B. J., Rita Cervo, and Seirian Sumner (2015). "Social parasitism and the molecular basis of phenotypic evolution". In: *Front. Genet.* 6, p. 32. DOI: 10.3389/fgene.2015.00032. URL: <http://journal.frontiersin.org/Journal/10.3389/fgene.2015.00032/abstract> (visited on 02/02/2015).

González-Santos, Miguel, Francesco Montinaro, Ockie Oosthuizen, Erica Oosthuizen, Busby, George B. J., et al. (2015). "Genome-Wide SNP Analysis of Southern African Populations Provides New Insights into the Dispersal of Bantu-Speaking Groups". en. In: *Genome Biol Evol* 7.9, pp. 2560–2568. ISSN: , 1759-6653. DOI: 10.1093/gbe/evv164. URL: <http://gbe.oxfordjournals.org/content/7/9/2560> (visited on 09/20/2015).

Martinez-Cadenas, Conrado, Alejandro Blanco-Verea, Barbara Hernando, Busby, George B. J., Maria Brion, Angel Carracedo, Antonio Salas, and Cristian Capelli (2015). "The relationship between surname frequency and Y chromosome variation in Spain". en. In: *Eur J Hum Genet.* ISSN: 1018-4813. DOI: 10.1038/ejhg.2015.75. URL: <http://www.nature.com/ejhg/journal/vaop/ncurrent/full/ejhg201575a.html> (visited on 04/23/2015).

Montinaro, Francesco, Busby, George B. J., Vincenzo L. Pascali, Simon Myers, Garrett Hellenthal, and Cristian Capelli (2015). "Unravelling the hidden ancestry of American admixed populations". en. In: *Nat Commun* 6. DOI: 10.1038/ncomms7596. URL: <http://www.nature.com/ncomms/2015/150324/ncomms7596/abs/ncomms7596.html> (visited on 04/01/2015).

- Tofanelli, Sergio, Francesca Brisighelli, Paolo Anagnostou, **Busby, George B. J.**, Gianmarco Ferri, et al. (2015). "The Greeks in the West: genetic signatures of the Hellenic colonisation in southern Italy and Sicily". ENG. in: *Eur. J. Hum. Genet.* ISSN: 1476-5438. DOI: 10.1038/ejhg.2015.124.
- Hellenthal, Garrett, **Busby, George B. J.**, Gavin Band, James F. Wilson, Cristian Capelli, Daniel Falush, and Simon Myers (2014). "A Genetic Atlas of Human Admixture History". en. In: *Science* 343.6172, pp. 747–751. ISSN: 0036-8075, 1095-9203. DOI: 10.1126/science.1243518. URL: <http://www.sciencemag.org/content/343/6172/747> (visited on 04/08/2014).
- Lazaridis, Iosif, Nick Patterson, Alissa Mittnik, Gabriel Renaud, Swapan Mallick, et al. (2014). "Ancient human genomes suggest three ancestral populations for present-day Europeans". en. In: *Nature* 513.7518, pp. 409–413. ISSN: 0028-0836. DOI: 10.1038/nature13673. URL: <http://www.nature.com/nature/journal/v513/n7518/full/nature13673.html> (visited on 09/18/2014).
- Marks, Sarah J., Francesco Montinaro, Hila Levy, Francesca Brisighelli, Gianmarco Ferri, et al. (2014). "Static and moving frontiers: the genetic landscape of Southern African Bantu-speaking populations". en. In: *Mol Biol Evol*, msu263. ISSN: 0737-4038, 1537-1719. DOI: 10.1093/molbev/msu263. URL: <http://mbe.oxfordjournals.org/content/early/2014/09/13/molbev.msu263> (visited on 10/06/2014).
- Coia, Valentina, Marco Capocasa, Paolo Anagnostou, Vincenzo Pascali, Francesca Scarnicci, et al. (2013). "Demographic Histories, Isolation and Social Factors as Determinants of the Genetic Structure of Alpine Linguistic Groups". In: *PLoS ONE* 8.12, e81704. DOI: 10.1371/journal.pone.0081704. URL: <http://dx.doi.org/10.1371/journal.pone.0081704> (visited on 12/05/2013).
- Bertoncini, S., G. Ferri, **Busby, George B. J.**, L. Taglioli, M. Alù, C. Capelli, G. Paoli, and S. Tofanelli (2012). "A Y variant which traces the genetic heritage of ligure tribes". In: *Journal of Biological Research - Bollettino della Società Italiana di Biologia Sperimentale* 85.1. ISSN: 1826-8838. DOI: 10.4081/jbr.2012.4087. (Visited on 02/29/2016).
- Busby, George B. J.**, Francesca Brisighelli, Paula Sánchez-Diz, Eva Ramos-Luis, Conrado Martínez-Cadenas, et al. (2012). "The peopling of Europe and the cautionary tale of Y chromosome lineage R-M269". In: *Proceedings of the Royal Society B: Biological Sciences* 279.1730, pp. 884–892. DOI: 10.1098/rspb.2011.1044. URL: <http://rspb.royalsocietypublishing.org/content/279/1730/884.abstract> (visited on 01/25/2012).
- Busby, George B. J.**, D. Gottelli, T. Wachter, L. Marker, F. Belbachir, et al. (2009). "Genetic analysis of scat reveals leopard *Panthera pardus* and cheetah *Acinonyx jubatus* in southern Algeria". In: *Oryx* 43.03, pp. 412–415.

Blogs and Magazine Articles

Naturejobs

This article appeared on Nature jobs as a result of winning a writing competition at Science Innovation Union

 May 2017

Meditation on a Caltrain: Understanding where to travel to next

 <http://blogs.nature.com/naturejobs/2017/05/17/meditation-on-a-caltrain-understanding-where-to-travel-to-next/>

Science Innovation Union

 Nov 2016

We are genomics; the story of Oxford Startup Genomics Plc


 <https://t.co/ZQgxl1j9hq>

The Conversation

I've had over 165,000 reads of my articles on the Conversation putting me in the top 25 out of over 450 Oxford Uni authors


 April 2017


Can we ever find Jesus's DNA? I met the scientists who are trying to find out

 <https://theconversation.com/can-we-ever-find-jesus-dna-i-met-the-scientists-who-are-trying-to-find-out-72296>


 Sept 2016

Genetic studies reveal diversity of early human populations

 <https://theconversation.com/genetic-studies-reveal-diversity-of-early-human-populations-and-pin-down-when-we-left-africa-65745>

 Jan 2016

Here's how genetics helped crack the history of human migration

 <https://theconversation.com/heres-how-genetics-helped-crack-the-history-of-human-migration-52918>

eLife

 June 2016

eLife podcast, episode 30: Admixture into and within Africa

 <https://elifesciences.org/podcast/episode30>

Serious Science

Serious Science: ask the expert series

- 📅 Sept 2016 How to determine one's ancestry using DNA tests?
🔗 <http://serious-science.org/how-to-determine-ones-ancestry-using-dna-tests-6975>
- 📅 Oct 2015 The history in our genes
🔗 <http://serious-science.org/the-history-in-our-genes-5256>

Oxford University

MalariaGEN blog

- 📅 June 2016 Understanding human population movement and the study of malaria
🔗 <https://www.malariagen.net/blog/understanding-historical-population-movements-and-study-malaria>

Phenotype Magazine (Journal of the Oxford Biochemistry Society)

- 📅 May 2016 Mixing meiosis in mice and men
🔗 <https://issuu.com/phenotypejournal/docs/suptt16web>

Wellcome Trust Centre for Human Genetics blog

- 📅 Oct 2015 Using genetics to uncover recent migration and population movement in Eurasia
🔗 <http://serious-science.org/the-history-in-our-genes-5256>
- 📅 Feb 2015 The genetic roots of modern America
🔗 <http://www.well.ox.ac.uk/wtchg-blog>
- 📅 Oct 2014 The ancient ancestry of Europeans
🔗 <http://www.well.ox.ac.uk/wtchg-blog>