

Alistair Bailey

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QUALIFICATIONS

PhD (Cancer Science Unit),	University of Southampton
BEng with First Class Honours in Civil Engineering,	University of Southampton
Engineering, Science and Mathematics Foundation Year,	University of Southampton
Data Science Specialization,	John Hopkins University Coursera
Mathematics MU120 and MST121,	Open University
BTEC ND Audio-Visual Production,	Bournemouth & Poole College of Art & Design

EMPLOYMENT

Research Fellow, University of Southampton	January 2013 to present
Internship, Microsoft Research, Cambridge	March 2012 to June 2012
Freelance Satellite Communications Engineer	October 2004 to September 2012
Satellite Master Control Room Engineer, Globecast	March 2001 to October 2004
Master Control Room Engineer, Telecine	May 1995 to November 1999
Sound Recordist, Wrightstuff Productions	July 1994 to September 1994

EXPERIENCE

I am a scientist with a background in engineering. My current project aims to understand the role of class I MHC molecules of the immune system in skin sensitisation to chemical allergens. I also contribute to research into human cancer and contagious cancer in the Tasmanian Devil, and I am a [Data and Software Carpentry](#) instructor.

My experimental workflow involves cell culture and immunopeptidomics mass spectrometry. I also have experience with hydrogen/deuterium exchange mass spectrometry, fluorescent spectroscopy of kinetic measurements and molecular dynamics simulations.

My computational skills are primarily in the use of statistical programming language R in conjunction with git version control and bash for data analysis and bioinformatics. I also have experience using latex, MATLAB, python and SQL and proteomics software Peaks and MaxQuant.

Prior to becoming a full-time scientist, I spent 17 years in the television industry working in as an engineer in satellite communications and control room operations up until 2012. Projects I worked on during that time include the London 2012 Olympics, the 2011 Royal Wedding, Premiership and Champions League Football, Wimbledon and the Rugby World Cup.

PUBLICATIONS

Direct evidence for conformational dynamics in major histocompatibility complex class I molecules.

A. van Hateren, M. Anderson, **A. Bailey**, J. M. Werner, P. Skipp, T. Elliott. Journal of Biological Chemistry, 2017. DOI: [10.1074/jbc.M117.809624](https://doi.org/10.1074/jbc.M117.809624)

Recent advances in Major Histocompatibility Complex class I antigen presentation: Plastic MHC molecules and TAPBPR-mediated quality control.

A. van Hateren, **A. Bailey**, T. Elliott. F1000 Research, 2017. DOI: [10.12688/f1000research.10474.1](https://doi.org/10.12688/f1000research.10474.1)

Selector function of MHC I molecules is determined by protein plasticity.

A. Bailey, N. Dalchau, R. Carter, S. Emmott, A. Phillips, J.M. Werner and T. Elliott Scientific Reports, 2015. DOI: [10.1038/srep14928](https://doi.org/10.1038/srep14928)

Plasticity of empty major histocompatibility complex class I molecules determines peptide-selector function.

A. van Hateren, **A. Bailey**, J.M. Werner, T. Elliott Molecular immunology, 2015

Two polymorphisms facilitate differences in plasticity between two chicken major histocompatibility complex class I proteins.

A. Bailey, A. van Hateren, T. Elliott, J.M. Werner - PloS one, 2014. DOI: [10.1371/journal.pone.0089657](https://doi.org/10.1371/journal.pone.0089657)

A mechanistic basis for the co-evolution of chicken tapasin and major histocompatibility complex class I (MHC I) proteins.

A. van Hateren, R. Carter, **A. Bailey**, N. Kontouli, Williams, A. P. Kaufman, J. Elliott, T. Journal of Biological Chemistry, 2013. DOI: [10.1074/jbc.M113.474031](https://doi.org/10.1074/jbc.M113.474031)

The cell biology of major histocompatibility complex class I assembly: towards a molecular understanding. A. Van Hateren, E. James, **A. Bailey**, A. Phillips, Dalchau, N. Elliott, T. Tissue antigens, 2010. DOI: [10.1111/j.1399-0039.2010.01550.x](https://doi.org/10.1111/j.1399-0039.2010.01550.x)

REFEREES

Available on request