Alistair Bailey

I am a researcher at the Centre for Proteomic Research and Cancer Sciences Unit at the University of Southampton. My research interests are in antigen processing and presentation by class I MHC molecules, data science and proteomics.The project I currently work on aims to improve immunotherapy treatment for cancer patients.[1] I also contribute to research into the role of MHC molecules in skin sensitization to chemical allergens, and contagious cancer in the Tasmanian Devil. I am also a Data and Software Carpentry[2] instructor.

EDUCATION

2016 | 2016

MACHINE LEARNING

Stanford University — Coursera

- 10 week online introduction to machine learning.

2015 | 2015

DATA SCIENCE SPECIALIZATION

John Hopkins University — Coursera

- 12 month online set of courses on data science using R, git and command line tools.

2013 | 2008

PHD, IMMUNOLOGY

Cancer Sciences, University of Southampton — Southampton, UK

- Thesis: Relating the structure, function and dynamics of the MHC Class I antigen presenting molecule.

2008 | 2005

BENG, CIVIL ENGINEERING

University of Southampton — Southampton, UK

- First Class Honours in Civil Engineering.

2005 | 2004

ENGINEERING, SCIENCE & MATHEMATICS FOUNDATION YEAR

University of Southampton — Southampton, UK

- Maths and physics foundation year preparation for undergraduate study.

1994 | 1992

BTEC ND AUDIO-VISUAL PRODUCTION

Bournemouth & Poole College of Art & Design — Bournemouth, UK

- Foundation course in film, photography, TV and radio production.

View this CV online with links at *ab604.uk/cv/*

CONTACT

ab604@soton.ac.uk
alistair604
github.com/ab604
ab604.uk

LANGUAGE SKILLS

- R
- Python
- Bash
- SQL
- Markdown
- Git
- Latex

Made with the R package pagedown.

The source code is available on github.com/ab604/abailey-cv.

The font is Atkinson Hyperlegible

Last updated on 2021-08-26.

RESEARCH EXPERIENCE

Current | 2018

RESEARCH FELLOW

Centre for Proteomic Research/Cancer Sciences, University of Southampton

Southampton, UK

- Cancer Research UK Accelerator: this project aims to identify potential treatment targets for hard to treat cancers such as lung cancer using peptidomics methods.
- We have also developed our method to identify treatment targets for infectious diseases such as influenza.
- In 2020 I also worked to develop a COVID19 test using proteomics methods.

2018 | 2015

RESEARCH FELLOW

Centre for Proteomic Research/Cancer Sciences, University of Southampton

Southampton, UK

- Developed peptidomics methodology at the UoS for research into the role of MHC molecules in skin sensitisation to chemical allergy.

2015 | 2013

RESEARCH FELLOW

Cancer Sciences, University of Southampton

Southampton, UK

- MRC Centenary Fellow

INDUSTRY EXPERIENCE

2012 | 2012

INTERNSHIP

Microsoft Research

Cambridge, UK

- Helped develop computational model of MHC I peptide selection.

2012 | 2004

FREELANCE SATELLITE COMMUNICATIONS ENGINEER

Globecast

London, UK

- I continued to work as an engineer in broadcast TV from 2004 and 2012 on major events such as the Olympics and Football World Cup.

2004 | 2000

SATELLITE COMMUNICATIONS ENGINEER

Globecast

London, UK

- Full time engineer working in global broadcast TV primarily on sports, news and live entertainment events.

2000 | 1995

FILM AND TELEVISION POST-PRODUCTION ENGINEER

Telecine

London, UK

- I trained as an engineer to operate various TV & film post-production equipment.

TEACHING EXPERIENCE

I have worked in a variety of roles ranging from engineering to research scientist. I like collaborative environments where I can learn from my peers.

I am passionate about teaching foundational coding and data

2020 | 2019

CODING TOGETHER[3]

University of Southampton — Southampton, UK

- I created and taught an eight week series of collaborative workshops to teach foundational R coding and data science skills based on Carpentries materials.

2018 | 2018

SOFTWARE CARPENTRY

Umeå University — Umeå, Sweden

- Taught R for Reproducible Research and assisted in Command Line Basics.

2018 | 2018

BRITISH SOCIETY FOR PROTEOMICS 2018 DATA SCIENCE WORKSHOP[4]

University of Bradford — Bradford, UK

- I created and taught a proteomics data science workshop including introduction to R, Volcano plots, heatmaps and peptide logos.

2017 | 2017

DATA CARPENTRY

University of Southampton — Southampton, UK

- Taught R for Reproducible Research and assisted in Command Line Basics and git.

2017 | 2017

DATA CARPENTRY

University of Southampton — Southampton, UK

- Taught R for Reproducible Research and assisted in introduction to SQL.

2017 | 2017

SOFTWARE CARPENTRY

University of Southampton — Southampton, UK

- Assisted with python and git for reproducible research.

SELECTED PUBLICATIONS, POSTERS, AND TALKS

2021 | 2021

CHARACTERIZATION OF THE CLASS I MHC PEPTIDOME RESULTING FROM DNCB EXPOSURE OF HACAT CELLS[5]

Toxicological Sciences

- Alistair Bailey, Ben Nicholas, Rachel Darley, Erika Parkinson, Ying Teo, Maja Aleksic, Gavin Maxwell, Tim Elliott, Michael Ardern-Jones, Paul Skipp.

2021 | 2021

IMMUNOPEPTIDOMIC ANALYSIS OF INFLUENZA A VIRUS INFECTED HUMAN TISSUES IDENTIFIES INTERNAL PROTEINS AS A RICH SOURCE OF HLA LIGANDS[6]

bioaRxiv

- Ben Nicholas, Alistair Bailey, Karl J. Staples, Tom Wilkinson, Tim Elliott, Paul Skipp.

2021 | 2021

THE IMMUNOPEPTIDOMES OF TWO TRANSMISSIBLE CANCERS AND THEIR HOST HAVE A COMMON, DOMINANT PEPTIDE MOTIF[7]

Immunology

- Annalisa Gastaldello, Sri H. Ramarathinam, Alistair Bailey, Rachel Owen, Steven Turner, N. Kontouli, Tim Elliott, Paul Skipp, Anthony W. Purcell, Hannah V. Siddle.

2019 | 2019

DYNAMICALLY DRIVEN ALLOSTERY IN MHC PROTEINS: PEPTIDE-DEPENDENT TUNING OF CLASS I MHC GLOBAL FLEXIBILITY[8]

Frontiers in Immunology

- Cory M. Ayres, Esam T. Abualrous, Alistair Bailey, Christian Abraham, Lance M. Hellman, Steven A. Corcelli, Frank Noé, Tim Elliott, Brian M. Baker.

2017 | 2017

DIRECT EVIDENCE FOR CONFORMATIONAL DYNAMICS IN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I MOLECULES[9]

JBC

- Andy van Hateren, Malcolm Anderson, Alistair Bailey, Jörn M. Werner, Paul Skipp, Tim Elliott.

2017 | 2017

RECENT ADVANCES IN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I ANTIGEN PRESENTATION: PLASTIC MHC MOLECULES AND TAPBPR MEDIATED QUALITY CONTROL[10]

F1000 Research

- Andy van Hateren, Alistair Bailey, Tim Elliott.

2014 | 2014

TWO POLYMORPHISMS FACILITATE DIFFERENCES IN PLASTICITY BETWEEN TWO CHICKEN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I PROTEINS[11]

PLoS One

- Alistair Bailey, Andy van Hateren, Tim Elliott, Jörn M. Werner.

2013 | 2013

A MECHANISTIC BASIS FOR THE CO-EVOLUTION OF CHICKEN TAPASIN AND MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I PROTEINS[12]

JBC

- Andy van Hateren, Rachel Carter, Alistair Bailey, Nasia Kontouli, Anthony P. Williams, Jim Kaufman, Tim Elliott.

2010 | 2010

THE CELL BIOLOGY OF MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I ASSEMBLY: TOWARDS A MOLECULAR UNDERSTANDING[13]

Tissue Antigens

- A. Van Hateren, E. James, A. Bailey, A. Phillips, N. Dalchau, T. Elliott

LINKS

1. https://www.cancerresearchuk.org/funding-for-researchers/accelerator-award/portfolio-funded-projects-outputs
2. https://carpentries.org/
3. https://ab604.github.io/docs/coding-together-2019/
4. https://ab604.github.io/docs/bspr_workshop_2018/index.html
5. https://doi.org/10.1093/toxsci/kfaa184
6. https://doi.org/10.1101/2021.08.17.456620
7. https://doi.org/10.1111/imm.13307
8. https://doi.org/10.3389/fimmu.2019.00966
9. https://doi.org/10.1074/jbc.M117.809624
10. https://doi.org/10.12688/f1000research.10474.1
11. https://doi.org/10.1371/journal.pone.0089657
12. https://doi.org/10.1074/jbc.M113.474031
13. https://doi.org/10.1111/j.1399-0039.2010.01550.x