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

2017 | 2017

CARPENTRIES INSTRUCTOR
Worldwide
📍 The Carpentries

- I trained as a Carpentries[3] instructor as part of their volunteer led misson to increase global capacity in essential data and computational skills for conducting efficient, open, and reproducible research.

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/cv.html*

CONTACT

- ✉ ab604@soton.ac.uk
- 🐦 alistair604
- ⭕ github.com/ab604
- 🔗 ab604.uk

LANGUAGE SKILLS

R
Python
Bash
SQL
Markdown
Git
Latex
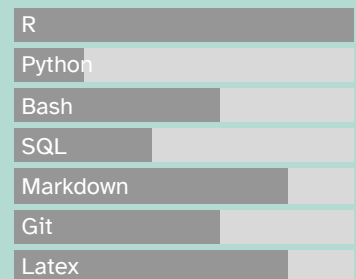
Made with the R package pagedown.

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

The font is Atkinson Hyperlegible

Last updated on 2021-08-27.

🖥 RESEARCH EXPERIENCE

Current
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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
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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
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2013

RESEARCH FELLOW
Cancer Sciences, University of Southampton
📍 Southampton, UK

- MRC Centenary Fellow

💼 INDUSTRY EXPERIENCE

2012
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2012

INTERNSHIP
Microsoft Research
📍 Cambridge, UK

- Helped develop computational model of MHC I peptide selection.

2012
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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
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2000

SATELLITE COMMUNICATIONS ENGINEER
Globecast
📍 London, UK

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

2000
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1995

FILM AND TELEVISION POST-PRODUCTION ENGINEER
Telecine
📍 London, UK

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

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.

💻 TEACHING EXPERIENCE

2020 | 2019

CODING TOGETHER[4]
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.

2019 | 2018

ACADEMIC SUPPORT TUTOR
IntoUniversity Millbrook

📍 Southampton, UK

• IntoUniversity[5] supports young people from disadvantaged backgrounds to attain either a university place or another chosen aspiration. I volunteered as an academic support tutor for secondary school learners.

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[6]
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.

I am passionate about teaching foundational coding and data science skills to researchers and developing evidence-based best practices. I am especially interested in helping novices and making coding more accessible to all.

PUBLICATIONS

2021
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2021

CHARACTERIZATION OF THE CLASS I MHC PEPTIDOME RESULTING FROM DNCB EXPOSURE OF HACAT CELLS[7]
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[8]
bioaRxiv

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

2021
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2021

THE IMMUNOPEPTIDOMES OF TWO TRANSMISSIBLE CANCERS AND THEIR HOST HAVE A COMMON, DOMINANT PEPTIDE MOTIF[9]
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[10]
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[11]
JBC

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

2017
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2017

RECENT ADVANCES IN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I ANTIGEN PRESENTATION: PLASTIC MHC MOLECULES AND TAPBPR MEDIATED QUALITY CONTROL[12]
F1000 Research

- Andy van Hateren, Alistair Bailey, Tim Elliott.

2014
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2014

TWO POLYMORPHISMS FACILITATE DIFFERENCES IN PLASTICITY BETWEEN TWO CHICKEN MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I PROTEINS[13]
PLoS One

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

2013
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2013

A MECHANISTIC BASIS FOR THE CO-EVOLUTION OF CHICKEN TAPASIN AND MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I PROTEINS[14]

JBC

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

2010
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2010

THE CELL BIOLOGY OF MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I ASSEMBLY: TOWARDS A MOLECULAR UNDERSTANDING[15]

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://carpentries.org/
4. https://ab604.github.io/docs/coding-together-2019/
5. https://intouniversity.org/
6. https://ab604.github.io/docs/bspr_workshop_2018/index.html
7. https://doi.org/10.1093/toxsci/kfaa184
8. https://doi.org/10.1101/2021.08.17.456620
9. https://doi.org/10.1111/imm.13307
10. https://doi.org/10.3389/fimmu.2019.00966
11. https://doi.org/10.1074/jbc.M117.809624
12. https://doi.org/10.12688/f1000research.10474.1
13. https://doi.org/10.1371/journal.pone.0089657
14. https://doi.org/10.1074/jbc.M113.474031
15. https://doi.org/10.1111/j.1399-0039.2010.01550.x