

# Sophie Edgar-Andrews

DPhil (Oxon) | Data Scientist & Technical Consultant  
hello@sophieedgarandrews.com



## SKILLS

### PROGRAMMING

Professional

Java, R, Shiny, Spring Boot, Maven, TDD, SQL, Git, LANSa, LaTeX

Competent

CSS, JavaScript, MATLAB

### TEACHING

Design and execution of bespoke training workshops for major clients on topics including programming and source control.

Supervision and training of students, junior researchers & colleagues.

### LANGUAGES

Native English.

Conversational Japanese (JLPT N5).

## LINKS

Website: [sophieedgarandrews.com](https://sophieedgarandrews.com)

LinkedIn: Sophie Edgar-Andrews

ResearchGate: Sophie Andrews

GitHub: sophieed

## EDUCATION

**UNIVERSITY OF OXFORD** | DOCTOR OF PHILOSOPHY (DPHIL OXON)  
Infection, Immunology and Translational Medicine | Sep 2012- Oct 2016

- Thesis: Adaptive Immune Evasion in Clinically Latent HIV Infection
- Wellcome Trust Four-Year Studentship
- Supervised by Professor Sarah Rowland-Jones & Professor Tao Dong

**UNIVERSITY OF YORK** | BSc (Hons)

Molecular Cell Biology | Sep 2009 – Jul 2012 | York, UK

- First Class Honours with Distinction
- Thesis: Analysing Gene Expression in Microbes Colonizing Humans

## EMPLOYMENT

**FREELANCE** | DATA SCIENCE & TECHNICAL CONSULTANCY

Apr 2020 - Present

Freelance consultant with a focus on public health. My clients include The World Health Organization.

**ALFA FINANCIAL SOFTWARE LTD** | SOFTWARE ENGINEER

Oct 2017 - Mar 2020

Java Engineer and Implementation Consultant in the FinTech sector. I developed bespoke software enhancements, and worked directly with major clients.

**UNIVERSITY OF OXFORD** | POSTDOCTORAL RESEARCH FELLOW

Oct 2017 - Mar 2020

Postdoctoral Research Fellow in Viral Immunology. This was a 12-month fixed-term contract funded by the Rosetrees Trust to investigate mother-to-child transmission of HIV in Kenyan infants.

## KEY CLIENTS & FELLOWSHIPS

**WORLD HEALTH ORGANIZATION** | CONSULTANT

Jun 2020 - Present | Remote

Supporting the WHO Health Emergencies Preparedness and Response team with the management and analysis of data in the context of the coronavirus pandemic.

**HOKKAIDO UNIVERSITY** | VISITING RESEARCH FELLOW

Oct 2015 – Nov 2015 | Sapporo, JP

Visiting academic performing biomedical research in the laboratory of Professors Katsumi Maenaka and Kimiko Kuroki.

**CAPITAL MEDICAL UNIVERSITY** | VISITING RESEARCH FELLOW

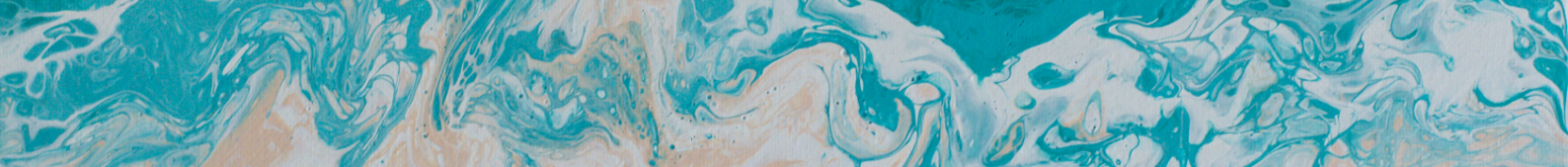
Beijing You'an Hospital | Oct 2014 – Nov 2014 | Beijing, CN

Visiting academic performing biomedical research in the laboratory of Dr Yonghong Zhang.

**UNIVERSITY OF TOKYO** | RESEARCH INTERN

Jul 2011 – Aug 2011 | Tokyo, JP

Participant of the University of Tokyo Research Internship Programme (UTRIP), working in the laboratory of Professor Shinya Kuroda.



## GRANTS, AWARDS AND SCHOLARSHIPS

- 2018 Alfa Financial Software Ltd Hackathon prize
- 2015 British Society of Immunology (BSI) Travel Award (£700)
- 2012 Wellcome Trust Four-Year PhD Studentship (£159,340)
- 2012 York Award for student achievement
- 2012 Department of Biology Award for final year research project

## CONFERENCES AND PUBLIC SPEAKING

- 2019 Invited Speaker | Lunchtime Lectures | Hereford Cathedral School | Hereford, UK
- 2018 Invited Speaker | World AIDS Day | Alfa Financial Software Ltd | London, UK
- 2016 Invited Speaker | World AIDS Day | Abingdon School | Oxford, UK
- 2015 Poster presentation | Society for Molecular Biology and Evolution Annual Meeting | Vienna, AU
- 2014 Poster presentation | 19<sup>th</sup> International Bioinformatics Workshop on Virus Evolution and Molecular Epidemiology (VEME) | Rome, IT
- 2014 Invited Speaker | World AIDS Day | St Edmund Hall College, University of Oxford | Oxford, UK

## PUBLICATIONS

Hirao, K\*, **Andrews, S.\*** Structure of HIV-2 Nef Reveals Features Distinct from HIV-1 Involved in Immune Regulation. *iScience*, **23**, 1. (2020)

**Andrews, SM.** *et al.* Analysis of HIV-1 envelope evolution suggests antibody-mediated selection of common epitopes among Chinese former plasma donors from a narrow-source outbreak. *Scientific Reports*, **8**, 5743. (2018)

Farnham, A., Kurz, C., [...] **Andrews, S., et al.** Early career researchers want Open Science. *Genome Biology*, **18**, 221. (2017)

**Andrews, SM.** & Rowland-Jones, S. Recent advances in understanding HIV evolution. *F1000 Research*, 10876.1. (2017)

**Andrews, SM.,** Wong, G. & Rowland-Jones, SL. The Cellular Immune Response to HIV-2 Infection. In Hope, TJ., Stevenson, M. & Richman, D. (Eds.), *Encyclopedia of AIDS*. New York: Springer. Online ISBN: 978-1-4614-9610-6. (2015)

**Andrews, SM.** & Pollard, AJ. A vaccine against serogroup B *Neisseria meningitidis*: dealing with uncertainty. *The Lancet Infectious Diseases* **14**, 426–434. (2014)

\* Joint first author



## RESEARCH EXPERIENCE

### UNIVERSITY OF OXFORD | VIRAL IMMUNOLOGY | MAY 2013 – AUGUST 2017

Nuffield Department of Medicine & Weatherall Institute of Molecular Medicine

*Immune Evasion in Clinically Latent HIV Infection*

- Supervised by Professor Sarah Rowland-Jones and Professor Tao Dong

Investigating the role of two retroviral proteins - negative factor (Nef) and gp120 envelope (Env) - in the evasion of host adaptive immune responses in the context of both HIV-1 and HIV-2 infection. My responsibilities within this research group included designing and carrying out an independent research project - containing both experimental and computational elements - as well as training junior group members on specialised techniques including cloning and cell culture.

### HOKKAIDO UNIVERSITY | VIRAL IMMUNOLOGY | OCT 2015 – NOV 2015

Faculty of Pharmaceutical Sciences

- Visiting academic in the group of Professor Katsumi Maenaka

Participated in a short collaborative project with a structural biology group at the University of Hokkaido to resolve the crystal structure of the HIV-2 Nef protein.

### CAPITAL MEDICAL UNIVERSITY | VIRAL IMMUNOLOGY | OCT 2014 – NOV 2014

Beijing You'an Hospital

- Visiting academic in the group of Dr Yonghong Zhang

Participated in a short collaborative project with a viral immunology group at Beijing You'an Hospital, where I performed experimental work with HIV-1 cohort samples.

### UNIVERSITY OF OXFORD | GENETICS OF NEMATODE IMMUNITY | FEB 2013 – MAY 2013

Department of Biochemistry

*Investigating Gene Expression in *Caenorhabditis elegans**

- Supervised by Professor Jonathan Hodgkin

Investigated inducible expression of invertebrate lysozyme 3 (ilys-3) in the intestine of *Caenorhabditis elegans* in response to infection with *Microbacterium nematophilum*. This project involved performing a mutagenesis screen on worms expressing an ilys-3p::GFP reporter construct, to identify several mutants with abrogated intestinal expression of ilys-3.

### UNIVERSITY OF OXFORD | MOLECULAR MICROBIOLOGY | OCT 2012 – JAN 2013

Sir William Dunn School of Pathology

*Development of Multicomponent Chimeric Proteins as Vaccine Candidates Against *Neisseria meningitidis**

- Supervised by Professor Christoph Tang

This project focussed on the development of 12 chimeric *Neisseria meningitidis* proteins for trial as potential vaccine candidates. The project involved a number of techniques such as cloning, protein expression and purification, ELISA and Western blotting. The chimeric proteins were later trialled in mice.

### UNIVERSITY OF YORK | MOLECULAR MICROBIOLOGY | OCT 2011 – MAR 2012

Department of Biology

*Analysing Gene Expression in Microbes Colonising Humans*

- Supervised by Dr James Moir

During my six month final year research placement, the aim of my project was to develop a novel technique for the analysis of microbial gene expression *in situ*, without the requirement for prior culturing *in vitro*. The project has laid solid foundations for further study.

### UNIVERSITY OF TOKYO | SYSTEMS BIOLOGY | JULY 2011 – AUG 2011

Department of Biophysics and Biochemistry

*Systems biology of cellular signalling: EGF-mediated Erk signalling pathways*

- Supervised by Professor Shinya Kuroda

During this six week research internship, I performed a number of computational simulations and experiments to assess EGF-mediated Erk signalling *in vitro* in PC12 cells.