

## CURRENT POSITIONS

### **Postdoctoral Research Associate** 2014–present

HIV Modelling Consortium, Dept. of Infectious Disease Epidemiology, Imperial College London, London, UK

Supervised by Prof. Timothy Hallett

- Modelling geospatially heterogeneous HIV transmission to inform HIV response strategies
- Current projects focus on policy implications of real-world constraints on HIV funding across Africa
- Analysed US investment in the global AIDS response to inform 2017–2018 Congressional budget negotiations

### **Technical Consultant** 2014–present

Imperial Consultants, London, UK

- Supported the Global Fund's 2017–2022 investment case and strategy
- Evaluating on-the-ground HIV prevention programs in Zimbabwe and Zambia

## EDUCATION

### **Oxford University**, Oxford, UK 2009–2014

#### **DPhil** in Mathematics 2010–2014

Wolfson Centre for Mathematical Biology, Mathematical Institute

Supervised by Prof. Philip Maini FRS, Prof. Eamonn Gaffney, and Dr. Natasha Martin

Thesis: *Mathematical modeling of metabolism and acidity in cancer*

Systems Biology Doctoral Training Centre 2009–2010

An initial year of taught coursework in a breadth of subjects across systems biology, followed by two rotation projects prior to beginning doctoral research

### **Carnegie Mellon University**, Pittsburgh, USA 2002–2009

#### **MS** in Computational Biology 2007–2009

Thesis: *Differential equation models of long-term untreated HIV infection*

Supervised by Prof. Shlomo Ta'asan

Developed ordinary differential equation models of within-host HIV infection and calibrated them to cohort data with the aim to predict the onset of AIDS

#### **BS** in Biological Sciences, BA in Statistics, Minor in Technical Writing 2002–2006

Thesis: *A comparison of methods for determining genetic variation in dechlorinating microbes*

Supervised by Prof. William Eddy and Prof. William Brown

Genetically analysed microbes for bioremediation of chemical contaminants in Hudson and Grasse river sediment

## AWARDS

**Young Investigator Scholarship** from the Conference on Retroviral and Opportunistic Infections, Boston, USA 2016

**Overseas Graduate Scholarship** from St. Catherine's College, Oxford University 2011–2014

**Prize for best talk** at the annual Doctoral Training Centre Conference, Oxford University 2013

**Landahl travel grant** from the Society for Mathematical Biology 2012

**Certificate of Merit** for Outstanding Undergraduate Research from Carnegie Mellon University 2006

**Sciences and Humanities Scholar** at Carnegie Mellon University 2002–2006

## PUBLIC SPEAKING

### Invited talks

- Dean's Seminar Series on Infectious Disease Modelling, Mailman School of Public Health, Columbia University, New York, USA 2016
- Panel, "Using geospatial analysis for effective HIV programming", International AIDS Conference, Durban, South Africa 2016
- Systems Biology seminar series, Stuttgart University, Germany 2013
- Modeling Biological Evolution Conference, Leicester, UK 2013
- St Catherine's College Biochemical Society Inaugural Meeting, Oxford University 2011

### Selected other talks and posters

- Panel, "When donors leave...", International AIDS Society Conference on HIV Science, Paris, France 2017 (*upcoming*)
- Poster and themed discussion, "Going to scale with ART and PrEP", Conference on Retroviral and Opportunistic Infections, Boston, USA 2016
- Society for Mathematical Biology Annual Conference, Knoxville, USA 2012
- Poster, 8th European Conference on Mathematical and Theoretical Biology, Krakow, Poland 2011

## PUBLICATIONS

McGillen JB, Anderson S-J, Hallett TB. Voluntary medical male circumcision should be integral to HIV prevention portfolios throughout sub-Saharan Africa. *In preparation*.

McGillen JB, Sharp A, Honermann B, Collins C, Hallett TB. Consequences of a changing U.S. strategy in the global AIDS investment landscape. *Submitted*.

McGillen JB, Anderson S-J, Hallett TB. Introducing optimism to models of resource allocation to reduce HIV incidence—Authors' reply. *The Lancet HIV* 2017; 4(1): e12.

McGillen JB, Anderson S-J, Hallett TB. PrEP as a feature in the optimal landscape of combination HIV prevention in sub-Saharan Africa. *Journal of the International AIDS Society* 2016; 19 (Suppl 6): 21104.

McGillen JB, Anderson S-J, Dybul MR, Hallett TB. Optimum resource allocation to reduce HIV incidence across sub-Saharan Africa: a mathematical modelling study. *The Lancet HIV* 2016; 3: e441–48.

Smith JA, Anderson S-J, Harris KL, McGillen JB, Lee E, Garnett GP, Hallett TB. Maximising HIV prevention by balancing the opportunities of today with the promises of tomorrow: a modelling study. *The Lancet HIV* 2016; 3 (7), e289–e296.

McGillen JB, Kelly CJ, Martinez-Gonzalez A, Martin NK, Gaffney EA, Maini PK, Perez-Garcia VM. Glucose–lactate metabolic cooperation in cancer: insights from a spatial mathematical model and implications for targeted therapy. *Journal of Theoretical Biology* 2014; 361: 190–203.

McGillen JB, Gaffney EA, Martin NK, Maini PK. A general reaction-diffusion model of acidity in cancer invasion. *Journal of Mathematical Biology* 2014; 68 (5): 1199–1224.

McGillen JB, Martin NK, Robey IF, Gaffney EA, Maini PK. Applications of mathematical analysis to tumour acidity modelling. *RIMS Kokyuroku Bessatsu* (Proceedings of Kyoto Research Institute for Mathematical Sciences) 2012; 31: 31–59.

## PROFESSIONAL WRITING AND EDITING

### Freelance Academic Editor 2015–2016

True Editing, London, UK

- Edited academic texts ranging from short reports to doctoral theses, as well as white papers produced by companies
- The degree of editing varied from proofreading to comprehensive reworking for language, clarity, and structure

### Peer reviewer 2012–present

- *PLOS One*
- *Bulletin of Mathematical Biology*
- *Applied Mathematics and Computation*
- *Computers and Mathematics with Applications*

### Data Analyst and Technical Writer 2007–2009

Centre for Computational Analysis of Social and Organizational Systems, Carnegie Mellon University, Pittsburgh, USA

- Led the collaborative writing of a technical report on educational interventions against U.S. earned income tax fraud (available at <http://dx.doi.org/10.2139/ssrn.2728471>)
- Overhauled tutorial materials on in-house software for text parsing and network visualisation
- Other duties included building datasets for modelling the 1998 Al Qaeda bombings of US embassies in Africa

### Systems Biology Intern 2008

The MathWorks Inc., Boston, USA

- Developed and wrote a tutorial for the MATLAB SimBiology package, based on a modeling study of HIV anti-retroviral treatment interruption, for inclusion in the online help database

### Medical Writer 2006–2007

University of Pittsburgh Medical Center (UPMC), Pittsburgh, USA

- Translated leading medical research taking place at UPMC into engaging language for non-experts
- Regularly contributed on deadline to a biweekly news magazine for the hospital community
- Designed, wrote, and project-managed marketing pieces for affiliated care centers