

Gibran Hemani

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Education

University of Bristol

ASSOCIATE OF THE HIGHER EDUCATION ACADEMY, UK

Bristol

2019–2020

University of Bristol

PHD IN QUANTITATIVE GENETICS

- Dissecting genetic interactions in complex traits - <https://github.com/explodecomputer/thesis>

Bristol

2007–2011

University of Nottingham

BSc (HONS) 2:1

Nottingham

2003–2006

NA–NA

Experience

MRC Integrative Epidemiology Unit, University of Bristol

SENIOR RESEARCH FELLOW

UK

Jan-18–present

MRC Integrative Epidemiology Unit, University of Bristol

RESEARCH FELLOW

UK

Jan-14–Dec-17

Queensland Brain Institute, University of Queensland

POST DOCTORAL STATISTICAL GENETICIST

Australia

Jan-12–Dec-13

Skills

Analytical

DYNAMIC MODELLING, STATISTICAL MODELLING, DATA SCIENCE, REPRODUCIBLE RESEARCH

Programming

R (ADVANCED), C/C++, BASH, SQL, STAN, JAGS, LIBBI, PYTHON, MATLAB

Packages

SHINY, TIDYVERSE, DATA.TABLE, RCPP, POMP, H2O, BRMS

Tools

GIT, DOCKER, TRAVIS, AWS

Training

University of Bristol

SHORT COURSES

- Basic Epidemiology, Multilevel Modelling, Data Linkage, Analysis of repeated measures, Bayesian statistics with WINBUGS, Multiple Imputation Methods to deal with Missing Data, Methods for Mediation and Interaction Analysis, and Advanced Survival Analysis and Prognostic Modelling

DataCamp

DATA SCIENCE CAREER TRACK

- Covering the full range of data science skills from data cleaning through to predictive modelling and inference.

Wellcome Trust

MATHEMATICAL MODELLING FOR INFECTIOUS DISEASE DYNAMICS

- Two week residential course starting with the basics and covering implementation details

Bristol

2016–2019

Online

2017

Hinxton

2016

Teaching

Bristol Infectious Disease Dynamics: University of Bristol

bristolmathmodellers.github.io/

biddmodellingcourse

INTRODUCTION TO INFECTIOUS DISEASE MODELLING

2018, 2019

- Responsible for developing and teaching two 1 hour practicals on model development and dynamics.

Publications

First author

S Abbott, J Hellewell, J Munday, S Funk, CMMID nCoV working group

Wellcome open research

THE TRANSMISSIBILITY OF NOVEL CORONAVIRUS IN THE EARLY STAGES OF THE 2019-20 OUTBREAK IN WUHAN: EXPLORING INITIAL POINT-SOURCE EXPOSURE SIZES AND DURATIONS USING SCENARIO ANALYSIS

2020

S Abbott, J Hellewell, RN Thompson, K Sherratt, HP Gibbs, NI Bosse, ...

Wellcome Open Research

ESTIMATING THE TIME-VARYING REPRODUCTION NUMBER OF SARS-CoV-2 USING NATIONAL AND SUBNATIONAL CASE COUNTS

2020

S Abbott, S Funk, J Hellewell, S Clifford

Zenodo

EPIFORECASTS/EPINow: FIRST RELEASE

2020

S Abbott, H Christensen, MK Lalor, D Zenner, C Campbell, ME Ramsay, ...

Vaccine

EXPLORING THE EFFECTS OF BCG VACCINATION IN PATIENTS DIAGNOSED WITH TUBERCULOSIS: OBSERVATIONAL STUDY USING THE ENHANCED TUBERCULOSIS SURVEILLANCE SYSTEM

2019

S Abbott, H Christensen, NJ Welton, E Brooks-Pollock

Eurosurveillance

ESTIMATING THE EFFECT OF THE 2005 CHANGE IN BCG POLICY IN ENGLAND: A RETROSPECTIVE COHORT STUDY, 2000 TO 2015

2019

S Abbott

University of Bristol

MODELLING BCG VACCINATION IN THE UK: WHAT IS THE IMPACT OF CHANGING POLICY?

2019

S Abbott

Journal of Open Source Software

GETTBINR: AN R PACKAGE FOR ACCESSING AND SUMMARISING THE WORLD HEALTH ORGANISATION TUBERCULOSIS DATA

2019

S Abbott, JD Munday, J Hellewell, RN Thompson, N Bosse

TEMPORAL VARIATION IN TRANSMISSION DURING THE COVID-19 OUTBREAK IN ITALY

Non-first author

J Hellewell, S Abbott, A Gimma, NI Bosse, CI Jarvis, TW Russell, ...

The Lancet Global Health

FEASIBILITY OF CONTROLLING COVID-19 OUTBREAKS BY ISOLATION OF CASES AND CONTACTS

2020

TW Russell, J Hellewell, CI Jarvis, K Van Zandvoort, S Abbott, ... ESTIMATING THE INFECTION AND CASE FATALITY RATIO FOR CORONAVIRUS DISEASE (COVID-19) USING AGE-ADJUSTED DATA FROM THE OUTBREAK ON THE DIAMOND PRINCESS CRUISE SHIP, FEBRUARY 2020	<i>Eurosurveillance</i> 2020
A Endo, S Abbott, AJ Kucharski, S Funk ESTIMATING THE OVERDISPERSION IN COVID-19 TRANSMISSION USING OUTBREAK SIZES OUTSIDE CHINA	<i>Wellcome Open Research</i> 2020
KM Gostic, L McGough, SA Baskerville, K Joshi, C Tedijanto, R Kahn, ... PRACTICAL CONSIDERATIONS FOR MEASURING THE EFFECTIVE REPRODUCTIVE NUMBER, R_t	<i>medRxiv</i> 2020
N Imai, KAM Gaythorpe, S Abbott, S Bhatia, S van Elsland, K Prem, Y Liu, ... ADOPTION AND IMPACT OF NON-PHARMACEUTICAL INTERVENTIONS FOR COVID-19	<i>Wellcome Open Research</i> 2020
T Jombart, K Van Zandvoort, TW Russell, CI Jarvis, A Gimma, S Abbott, ... INFERRING THE NUMBER OF COVID-19 CASES FROM RECENTLY REPORTED DEATHS	<i>Wellcome Open Research</i> 2020
M Jit, T Jombart, ES Nightingale, A Endo, S Abbott, WJ Edmunds ESTIMATING NUMBER OF CASES AND SPREAD OF CORONAVIRUS DISEASE (COVID-19) USING CRITICAL CARE ADMISSIONS, UNITED KINGDOM, FEBRUARY TO MARCH 2020	<i>Eurosurveillance</i> 2020
DJ Price, FM Shearer, MT Meehan, E McBryde, R Moss, N Golding, ... EARLY ANALYSIS OF THE AUSTRALIAN COVID-19 EPIDEMIC	<i>medRxiv</i> 2020
EL Davis, TCD Lucas, A Borlase, TM Pollington, S Abbott, D Ayabina, ... AN IMPERFECT TOOL: COVID-19 'TEST & TRACE' SUCCESS RELIES ON MINIMISING THE IMPACT OF FALSE NEGATIVES AND CONTINUATION OF PHYSICAL DISTANCING.	<i>medRxiv</i> 2020
J Stone, H Fraser, AG Lim, JG Walker, Z Ward, L MacGregor, A Trickey, ... INCARCERATION HISTORY AND RISK OF HIV AND HEPATITIS C VIRUS ACQUISITION AMONG PEOPLE WHO INJECT DRUGS: A SYSTEMATIC REVIEW AND META-ANALYSIS	<i>The Lancet Infectious Diseases</i> 2018

Preprints

S Abbott, H Christensen, E Brooks-Pollock REASSESSING THE EVIDENCE FOR UNIVERSAL SCHOOL-AGE BACILLUS CALMETTE GUERIN (BCG) VACCINATION IN ENGLAND AND WALES	<i>BioRxiv</i> 2019
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Updated programmatically each week. See here for DOIs and citation details.

Selected Software

R Packages

idmodelr

samabbott.co.uk/idmodelr

INFECTIOUS DISEASE MODEL LIBRARY AND UTILITIES

2019

- Author and maintainer
- Released to CRAN with 1k+ downloads

EstZoonoticTB

samabbott.co.uk/EstZoonoticTB

AN R PACKAGE FOR EXPLORING, VISUALISING AND ESTIMATING THE GLOBAL ZOO NOTIC TUBERCULOSIS BURDEN

2019

- Author and maintainer

getTBinR

samabbott.co.uk/getTBinR

ACCESS AND SUMMARISE WORLD HEALTH ORGANISATION TUBERCULOSIS DATA

2018

- Author and maintainer
- Released to CRAN with 11k+ downloads

prettypublisher

samabbott.co.uk/prettypublisher

AN R PACKAGE THAT AIMS TO IMPROVE YOUR WORKFLOW BY ALLOWING AN EASIER TRANSITION FROM LITERATE CODE TO A PAPER DRAFT READY FOR JOURNAL SUBMISSION

2017

- Author and maintainer

Interactive tools

Explore infectious disease models

github.com/seabbs/exploreidmodels

DEVELOPED TO BE USED WITHIN A MODELLING SHORT COURSE AT THE UNIVERSITY OF BRISTOL. THIS DASHBOARD ALLOWS THE USER TO SIMULATE AND COMPARE A VARIETY OF COMPARTMENTAL INFECTIOUS DISEASE MODELS.

2019

Explore global tuberculosis

[getTBinR::run_tb_dashboard\(\)](#)

BUILT INTO GETTBINR THIS DASHBOARD ALLOWS NON-R USERS TO EXPLORE WHO TB DATA USING ALL OF THE PACKAGE FUNCTIONALITY.

2018

Introduction to Tuberculosis models

github.com/seabbs/intro_to_tb_models

DEVELOPED TO ALLOW SIMPLE TB MODELS TO BE EXPLORED IN AN INTERACTIVE SESSION. INSPIRED BY PRACTICALS FROM THE INTRODUCTION TO TB COURSE, RUN BY TB MAC AT THE 2017 UNION CONFERENCE.

2017

The pebble game

github.com/seabbs/thepebblegame

DEVELOPED AS A LEARNING AID TO HELP A GENERAL AUDIENCE UNDERSTAND THE IMPACT OF VACCINATION ON INFECTIOUS DISEASE DYNAMICS. USED AT GREEN MAN 2016 AS PART OF A WEEK OF OUTREACH WORK AND SUBSEQUENTLY DEVELOPED FURTHER.

2016

See my GitHub for a complete overview of my software both released and in development.

Presentations

BristolR

Bristol

(My) ESSENTIAL R RESOURCES

2019

- Slides: samabbott.co.uk/talk/myessentialr-bristolr_19_04_20/

UK Clinical Vaccine Network Conference

Oxford

WHAT DO WE REALLY KNOW ABOUT BCG?

2019

- Slides: samabbott.co.uk/talk/uk-vac-network-2019/

R/Medicine

Boston

GETTBINR: AN R PACKAGE FOR ACCESSING AND SUMMARISING WORLD HEALTH ORGANIZATION TUBERCULOSIS DATA

2019

- Slides: samabbott.co.uk/talk/gettbinr-14-09-19/

Research and Applied Epidemiology Scientific Conference

Warwick

ESTIMATING THE EFFECT OF THE 2005 UK BCG VACCINATION POLICY CHANGE: A RETROSPECTIVE COHORT STUDY USING THE ENHANCED TUBERCULOSIS SURVEILLANCE SYSTEM, 2000-2015

2018

- Slides: samabbott.co.uk/talk/phe-applied-epi-2018/

Research and Applied Epidemiology Scientific Conference

Warwick

BENEFICIAL EFFECTS OF BCG VACCINATION IN OUTCOMES FOR PATIENTS WITH ACTIVE TB: OBSERVATIONAL STUDY USING THE ENHANCED TUBERCULOSIS SURVEILLANCE SYSTEM 2000-2014

2017

- Received best PhD student abstract.
- Slides: samabbott.co.uk/talk/phe-applied-epi-2017/

48th Union World Conference on Lung Health

Mexico

BENEFICIAL EFFECTS OF BCG VACCINATION IN OUTCOMES FOR PATIENTS DIAGNOSED WITH TB: OBSERVATIONAL STUDY USING THE ENHANCED TUBERCULOSIS SURVEILLANCE SYSTEM 2009-2015

2017

- Slides: samabbott.co.uk/talk/union-2017/

Research and Applied Epidemiology Scientific Conference

Warwick

ASSESSING THE EVIDENCE FOR UNIVERSAL BACILLUS CALMETTE-GUÉRIN (BCG) VACCINATION IN ENGLAND

2016

- Received best abstract from an early career researcher.
- Slides: samabbott.co.uk/talk/phe-applied-epi-2016/

Service

Outreach

- Blog - with over 2.5k unique hits each year - looking at infectious disease epidemiology and dynamics, developments in 'R', tool development and reproducible research. Link: samabbott.co.uk/post

Organisations

- Co-organiser of BristolR

Manuscript Reviews

- Journal of Open Source Software (2)
- Eurosurveillance (1)