Dylan Humphrey Morris

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Education

Princeton University — Sep 2015 – August 2020 (expected)
PhD, Ecology & Evolutionary Biology

- Advisor: Simon A. Levin
- GPA: 4.00/4.00

Princeton University — Sep 2015 – May 2017
M.A., Ecology & Evolutionary Biology

- GPA: 4.00/4.00

University of Cambridge — Oct 2013 – Sep 2014
MPhil, Applied Biological Anthropology

- Distinction, including distinction on the MPhil thesis
- Thesis: ''Ape hunting and density-dependent disease dynamics''

Yale University — Sep 2007 – May 2011
B.A., Ethics, Politics, & Economics

- *summa cum laude*, Phi Beta Kappa, with distinction in the major
- GPA: 3.94/4.00

Publications and Manuscripts

- Neeltje van Doremalen, Trenton Bushmaker, **Dylan H. Morris***, Myndi G. Holbrook, Amandine Gamble, Brandi N. Williamson, Natalie J. Thornburg, Susan I. Gerber, James O. Lloyd-Smith, Emmie de Wit, and Vincent J. Munster. ''Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1''. *The New England Journal of Medicine* (2020). DOI: 10.1056/NEJMc2004973.
- Robert J. Fischer, **Dylan H. Morris**, Neeltje van Doremalen, Shanda Sarchette, M. Jeremiah Matson, Trenton Bushmaker, Claude Kwe Yinda, Stephanie N. Seifert, Amandine Gamble, Brandi N. Williamson, Seth D. Judson, Emmie de Wit, James O. Lloyd-Smith, and Vincent J. Munster. ''Assessment of N95 respirator decontamination and re-use for SARS-CoV-2''. *medRxiv preprint* (2020). DOI: 10.1101/2020.04.11.20062018.
- Edward K.S. Lam, **Dylan H. Morris**, Aeron C. Hurt, Ian G. Barr, and Colin A. Russell. ''The impact of climate and antigenic evolution on seasonal influenza virus epidemics in Australia''. *Nature Communications, in press* (2020). URL: https://github.com/edwardkslam/australian_seasonal_flu.
- **Dylan H. Morris**, Daniel B. Cooney, Daniel I. Rubenstein, Simon A. Levin, and Pawel Romanczuk. ''A social dilemma of sociality: beneficial and costly contagion''. *in prep* (2020).
- **Dylan H. Morris***, Fernando W. Rossine, Joshua B. Plotkin, and Simon A. Levin. ''Optimal, near-optimal, and robust epidemic control''. *arXiv preprint* (2020). URL: https://arxiv.org/abs/2004.02209.
- Mary Caswell Stoddard, Harold N. Eyster, Benedict G. Hogan, **Dylan H. Morris**, Edward R. Soucy, and David W. Inouye. ''Wild hummingbirds discriminate non-spectral colors''. *Proceedings of the National Academy of Sciences (in press)* (2020). URL: https://github.com/dylanhmorris/non-spectral-hummingbird-vision/.
- **Dylan H. Morris**, Velislava N. Petrova, Fernando W. Rossine, Edyth Parker, Bryan T. Grenfell, Richard A. Neher, Simon A. Levin, and Colin A. Russell. ''Asynchrony between virus diversity and antibody selection limits influenza virus evolution''. *in prep* (2019).

- **Dylan H. Morris***, Katelyn M. Gostic, Simone Pompei, Trevor Bedford, Marta Luksza, Richard A. Neher, Bryan T. Grenfell, Michael Lässig, and John W. McCauley. ''Predictive modeling of influenza shows the promise of applied evolutionary biology''. *Trends in Microbiology* 26 (Feb. 2018), pp. 102–108. DOI: 10.1016/j.tim.2017.09.004.

* denotes joint first author

Invited talks

- **Dylan H. Morris**. ''Optimal, near-optimal, and robust epidemic control''. International Centre for Theoretical Physics. Trieste, Italy (online), Apr. 2020.
- **Dylan H. Morris**. ''Optimal, near-optimal, and robust epidemic control''. EcoHealth Alliance. New York City, USA (online), May 2020.

Conference talks

- **Dylan H. Morris**. ''A Social Dilemma of Sociality and Collective Processing''. Collective Information Processing: from Individual Sensory Inputs to Collective Behavior and Collective Decision Making. Berlin, Germany, Mar. 2020.
- **Dylan H. Morris**. ''Asynchrony between virus diversity and immune selection limits influenza virus evolution''. 8th Orthomyxovirus Conference. Hanoi, Vietnam, Sept. 2018.
- **Dylan H. Morris**. ''Population dynamics constrain immune escape in human influenza A viruses''. 6th ESWI Influenza Conference. Riga, Latvia, Sept. 2017.

Conference posters

- **Dylan H. Morris**, Velislava N. Petrova, Fernando W. Rossine, Edyth Parker, Bryan T. Grenfell, Richard A. Neher, Simon A. Levin, and Colin A. Russell. ''Asynchrony between virus diversity and immune selection limits influenza virus evolution''. 17th Ecology and Evolution of Infectious Disease (EEID) meeting. Princeton, NJ, USA, June 2019.

Awards

Princeton University Graduate Teaching Award	2020
ESWI Young Scientist Fund Travel Grant	2017
Gates Cambridge Scholarship (declined)	2015
Paul Mellon Fellowship	2011 – 2014
Elected to Phi Beta Kappa, Yale University	2010
Yale John Hubbard Curtis Prize	2009
Yale J. Edward Meeker Prize	2008
Yale E. Francis Riggs Prize	2008
National Merit Scholarship	2006
Telluride Association TASP Full Scholarship	2005

Teaching Experience

EEB324, Theoretical Ecology — Princeton University
Teaching Assistant — February 2019 – June 2019

EEB533, Topics in Ecology: Theoretical Ecology — Princeton University
Volunteer Teaching Assistant — September 2018 – January 2019

EEB324, Theoretical Ecology — Princeton University
Teaching Assistant — February 2018 – June 2018

EEB211, Life on Earth — Princeton University
Lab Teaching Assistant — September 2015 – January 2016

POL1, The Analysis of Politics — University of Cambridge
Supervisor — October 2013 – May 2014

Mentoring & Advising

Chelsea Espinosa — PU 2020
Project title: ''Estimating wildlife-lifestock transmission rates for bovine tuberculosis'' — February 2020 – present

Arjun Sai Krishnan — PU 2021 (jointly with Chadi M. Saad-Roy)
Project title: ''Host adaptation in pandemic H1N1 influenza viruses'' — June 2019 – present

Alice D. Lin — PU 2020 (jointly with Daniel B. Cooney)
Project title: ''Spatial management strategies for common-pool resources'' — June 2016 – present

Erin L. Mooz — PU 2019 (jointly with Chadi M. Saad-Roy)
Project title: ''Codon bias and mutational robustness in influenza viruses'' — June 2018 – April 2019

Professional Service

Peer reviewer

- Science
- PLoS Pathogens
- International Journal of Infectious Diseases

EEB Scholars Weekend — Princeton EEB Dept. — May 2019 – Oct 2019

- Member of organizing committee for outreach program aimed at helping students from backgrounds underrepresented in STEM prepare for and apply for graduate programs
- Co-social chair; organized dinners and informal social events
- Workshop co-leader for workshops on personal statement writing and choosing a program

EEB Scholars Weekend — Princeton EEB Dept. — May 2018 – Oct 2018

- Member of organizing committee for outreach program aimed at helping students from backgrounds underrepresented in STEM prepare for and apply for graduate programs
- Co-head of scientific program; organized poster session and oral presentation session
- Workshop co-leader and mock interviewer for workshops on interviewing, personal statement writing, and choosing a program

Grad School Application Workshops — Princeton EEB Dept. — Oct 2017 – June 2018

- Helped lead workshops for Princeton juniors and seniors considering graduate study

Senior Thesis Statistics Tutoring — Princeton EEB Dept. — Oct 2016 – May 2017

- Tutored Princeton students writing their undergraduate theses in statistical analysis and data visualization
- Two tutees won departmental thesis prizes

Theoretical Ecology Lab Tea — Princeton EEB Dept. — Sep 2016 – Dec 2016

- Invited and solicited talks for seminar series in theoretical ecology
- Moderated discussions
- Maintained seminar series email lists and website, including improving site backend
- Coordinated seminar logistics and refreshments

Princeton EEB Statistics Workshops — Princeton EEB Dept., March 2016

- Planned and taught professional development workshops on Bayesian inference

Prospective student visits — Princeton EEB Dept., Dec 2015 – Feb 2016

- Planned prospective graduate student visiting and interview days
- Responsibilities included arranging housing and hosting, leading tours, and planning social events

Evolution of Innovation: Big Brains or Big Data? (Conference) — Cambridge, United Kingdom, Jan 2014 – Jun 2014

- Responsible for crafting conference programme and inviting speakers.
- At conference, moderated a panel featuring four invited speakers.
- Conference speakers included Google, Inc. Director of Research Dr. Peter Norvig.
- Organized accompanying professional development workshop on theory and practice of Bayesian inference, including inviting guest workshop leader Prof. Eric-Jan Wagenmakers.
- Served as webmaster of conference website. Conference streamed live online.

Research Experience

Sabine Plattner African Charities / Dr. Magdalena Bermejo — Odzala National Park, Republic of Congo (Brazzaville)
Field Researcher — May 2015 – August 2015

- Field research assistant to Dr. Magdalena Bermejo for study of Western lowland gorilla mobility and social network structure.
- Installed, maintained, and collected data from automated camera traps.
- Followed and observed gorilla groups.
- Collected fecal samples for genetic analysis opportunistically and through targed visits to nesting sites.
- Wrote software to aid in data management and analysis.
- Created relational database, including front-end graphical interface, for storage of camera trap data.

Skills

Languages spoken
English (native), French (professional fluency), Spanish (intermediate)

Programming
Python, C/C++, SQL, R, Julia, Bash, Stan, JAGS, HTML/CSS, LaTeX

Fieldwork
Camera trap installation and maintenance, fecal sample collection, manual transmission and off-road driving, general wilderness skills and first aid

Graphics, Visualization, and Design
Photoshop, Inkscape, TikZ, ggplot, matplotlib, InDesign, Lightroom

Other computing
SPSS, standard office software