Katelyn Gostic

PhD Candidate

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EDUCATION:

PhD, Dept. of Ecology & Evolutionary Biology, **UCLA** (expected) 2013-2019

AB (highest honors & thesis prize), Dept. of Ecology & Evolutionary Biology, **Princeton** 2009-2013

RESEARCH:

I research the ecology and evolution of infectious disease, with a focus at the intersection of immunology, virology and epidemic dynamics. My core research uses models and data to examine the epidemiological impacts of broadly protective influenza immunity. I am also interested in strategies to contain or slow the geographic spread of emerging infectious diseases.

PUBLICATIONS:

82 citations, h-index of 4 (Google Scholar, June, 2018) ** Joint first authors.*

5. Morris, D.H.,* **Gostic, K.M.**,* Pompei, S.,* Bedford, T., Łuksza, M., Neher, R.A., Grenfell, B.T., Lässig, M., McCauley, J.W. (2018) Predictive modeling of influenza shows the promise of applied evolutionary biology. *Trends in Microbiology.* **26,** 102-118. DOI: https://doi.org/10.1016/j.tim.2017.09.004

4. **Gostic, K.M.,** Ambrose, M., Worobey, M., Lloyd-Smith, J.O. (2017) Maternal antibodies' role in immunity -- Response. *Science.* **355**, 705. DOI: 10.1126/science.aam7389

3. **Gostic, K.M.,** Ambrose, M., Worobey, M., Lloyd-Smith, J.O. (2016) Potent protection against H5N1 and H7N9 influenza via childhood hemagglutinin imprinting. *Science.* **354,** 722-726. DOI: 10.1126/science.aag1322

2. Buhnerkempe M.G.*, **Gostic K.M.***, Park M., Ahsan P., Belser J.A., Lloyd-Smith J.O. (2015) Mapping influenza transmission in the ferret model to transmission in humans. *eLife.* 4:e07969. DOI: 10.7554/eLife.07969

1. **Gostic, K.M.*** Kucharski, A*. Lloyd-Smith, J. O. (2015) Natural history of infection influences effectiveness of screening measures for emerging pathogens. *eLife*. 4:e05564. DOI: 10.7554/eLife.05564

IN PREP:

- Gostic, K.M, Wang, R., Worobey, M., Lloyd-Smith, J.O. *Not just the first, but the first few childhood exposures shape childhood HA imprinting at the group level.* Manuscript drafted. Submission expected Nov. 2018.
- Gostic, K.M., Altman, M., Worobey, M., Lloyd-Smith J.O. *Childhood imprinting to highly glycosylated influenza variants primes for stronger, broadly protective immune protection later in life.* Expected submission: Summer, 2019.
- Gostic, K.M., Worobey, M., Lloyd-Smith J.O. *Population level effects of broadly protective immunity during seasonal influenza outbreaks.* Analyses 80% complete. Expected submission: Winter, 2019.
- Gostic, K.M., Worobey, M., Lloyd-Smith J.O. *Does broadly protective immunity prevent H5N1 and H7N9 cases entirely, or merely reduce their severity?* Expected submission: Spring, 2019.
- Gostic, K.M., Wunder, E., Lloyd-Smith, J.O., Ko, A. *A quantitative analysis of the importance of intact skin as a barrier against leptospirosis infection.* Expected submission: Summer, 2018.

FELLOWSHIPS & STIPEND SUPPORT:

James S. McDonnell Foundation: Understanding Dynamic and Multi-scale Systems Postdoctoral Fellowship (Letter of intent to fund), $200,000 planned, 2019-2021

NRSA Predoctoral Fellowship (F31), NIH, $24,000+tuition 2017-2019

Systems and Integrative Biology Training Grant, NIH/UCLA Dept. Biomathematics, $24,000+tuition 2014-2015

Eugene V. Cota-Robles Foundation Fellowship, $28,000+tuition 2013, 2016

PEER REVIEW:

I have reviewed several scholarly articles for PLoS Computational Biology, the Journal of the Royal Society Interface and the American Journal of Epidemiology.

HONORS AND AWARDS:

Scherbaum Award, for outstanding research by a graduate student, UCLA EEB, $200	2018
Invited session co-chair, 6th European Scientific Working Group on Influenza Conference, Riga, Latvia	2017
Excellence Award for Outstanding Research Publication, UCLA Division of Life Sciences	2017
Advanced to candidacy	2016
Charles E. and Sue K. Young Award, UCLA Graduate Division, (highest UCLA graduate honor), $10,000	2016
Carol Newton Legacy Symposium Poster Prize, UCLA Dept. Biomathematics, $100	2015
UCLA Dean's Scholar Award, $6000	2014, 2015
Scholarship and travel award, Summer Institute in Statistics and Modeling in Infectious Diseases	2014
Student Research Grant, UCLA Dept. of Ecology and Evolutionary Biology, $1000	2014
Leslie Kilham Johnson Prize, Princeton Dept. Ecology & Evolutionary Biology, (best tropical biology thesis)	2013
Poster Prize, Princeton Dept. Ecology & Evolutionary Biology, (best presentation in disease research)	2013

ORAL PRESENTATIONS:

Oral presentation, NIH Workshop on Universal Influenza Vaccines	2018
Invited seminar, NIH Vaccine Research Center, Bethesda MD	2017
Oral presentation, European Scientific Working Group on Influenza 6th Conference, Riga, Latvia	2017
Invited seminar, Occidental College, Los Angeles, CA	2017
Oral presentation, UCLA EEB Graduate Seminar Series, Los Angeles, CA	2016
Oral presentation, Ecological Society of America 2016 Annual Meeting, Ft. Lauderdale, FL	2016
Invited oral presentation, WHO workshop on models for influenza vaccine design, Princeton, NJ	2016
Oral presentation, Joint Training Grant Research Symposium, UCLA, Los Angeles, CA	2015
Guest lecture, "Statistics in ecological modeling." EEB C219B, Modeling in Ecological Research, UCLA	2015
Oral presentation, UCLA EEB Graduate Seminar Series, Los Angeles, CA	2015

POSTERS:

Ecology and Evolution of Infectious Diseases Conference, Santa Barbara, CA	2017
Ecology and Evolution of Infectious Diseases Conference, Ithaca, NY	2016
Ecology and Evolution of Infectious Diseases Conference, Athens, GA	2015
UCLA EEB Annual Research Symposium, Los Angeles, CA	2015
UCLA Global Health Day, Los Angeles, CA	2015
Carol Newton Legacy Symposium (UCLA Dept. Biomathematics), Los Angeles, CA	2015

TEACHING:

Teaching Assistant, Math for Life Scientists, UCLA Dept. of Ecology and Evolutionary Biology	2018
Teaching Assistant, Modeling in Ecological Research, UCLA Dept. of Ecology and Evolutionary Biology	2016
Teaching Assistant, Research Immersion Lab, UCLA Dept. Microbiology, Immunology and Molecular Genetics	2014
Summer Teaching Assistant/Mentee, Grade 5 Math, KIPP DC, AIM Academy, Anacostia, DC	2010

OUTREACH & SERVICE:

Founder & Coordinator of Eco-Evo Careers, (career discussion series for UCLA EEB Graduate Students)	2016-2017
Activity leader, DNA Day (LA middle school students), UCLA Dept. of Human Genetics	2015-2018
Activity leader, EmpowHER STEM Day (LA middle school girls), UCLA Empowering Women in Science	2014-2015
Organizer, UCLA EEB Graduate Student Seminar Series	2014-2015
Visiting scientist, Science Lunch Friday, University High School, Los Angeles, CA	2013
R Boot Camp Assistant (computational crash-course for entering UCLA EEB graduate students)	2013-2018

PRESS:

My research has been featured by several major news outlets, including the Economist, the Atlantic, NBC, CNN, AAAS Science Podcast, the NIH Director's Blog & the BBC Word Service. Links found at kgostic.github.io.