**Christopher “Toph” Allen**

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EDUCATION

Columbia University Mailman School of Public Health New York, NY

Master of Public Health, Epidemiology 2011–2013

* Master’s thesis: Statistical model of the global distribution of zoonotic disease emergence and associated socio-economic and ecological predictors.
* Research practicum: gathering and analyzing data on the accuracy of GPS-enabled cellphones for tracking physical activity in urban environments.

University of Southern California Los Angeles, CA

Bachelor of Arts, Sociology 2006–2008

* Completed qualitative research project for senior thesis; dean’s list magna cum laude 2006–2008.

PROFESSIONAL EXPERIENCE

EcoHealth Alliance New York, NY

Data Scientist June 2015–Present

Research Scientist October 2013–May 2015

Modeling Research Assistant May 2013–September 2013

* Worked on software development projects, including natural language processing data storehouse/interchange tools.
* Produced analysis of disease emergence data for major government funder. Gathered spatiotemporal datasets based on a priori hypotheses and implemented a machine learning algorithm to optimize for predictive power. Showed hypothesized effects which had not been present in earlier models. Based in part on grant’s deliverables, of which this analysis was a part, the funder approved a second five-year round of funding.
* Performed spatial and temporal analyses of canine leptospirosis test results and consulted with colleagues on other analyses, for a project for a private client, and , with colleagues, presented results to client in person. Client subsequently sought EHA’s services for other analytical projects.
* Contributed analyses for many other projects, applying techniques including generalized linear models (incl. logistic and Poisson regression), machine learning algorithms (incl. boosted regression trees, random forest, MaxEnt), time series analysis (incl. seasonal decomposition, Holt-Winters forecasting).
* Drafted manuscripts based on research projects, currently in preparation for submission.
* Authored book chapter on biosurveillance and pandemic prediction, contributed writing and figures to chapter on food production systems and disease emergence.
* Created and taught series of introductory classes on statistical programming language R and scientific computing to scientists and interns. Regularly advised to staff on use of R and other computer technologies, such as git.
* Collaborated colleagues at EHA and partners to create data collection methodology for five-year, multidisciplinary research project on disease emergence. Advocated for adoption of new data collection technologies to facilitate future analyses.

Scientists Without Borders, New York Academy of Sciences New York, NY

Vaccines Fellow Summer 2012

* Managed vaccine vertical with users on crowd-sourcing website, soliciting responses to questions, posting questions and answers, and writing weekly digest blog posts for the Vaccines topic.

The Leadership LAB at the L.A. Gay & Lesbian Center Los Angeles, CA

Field Organizer 2009–2011

* Part of a team authoring report on California’s 2008 same-sex marriage ban. Analyzed time-series campaign polling data and developed 60 graphics to illustrate key findings.
* Recruited and led team of volunteers collecting over 1 terabyte of video footage of qualitative interviews with voters on same-sex marriage. Coordinated subsequent storage, editing, and use of footage for analysis and training.
* Performed qualitative interviews with voters collecting data about persuasion on same-sex marriage, and recruited and trained volunteers to do the same.
* Oversaw production and testing of 30-second television ads rebutting anti-LGBT messaging.
* Took part in fundraising, both for the whole organization, and to purchase video and computer equipment.

PUBLICATIONS – PEER-REVIEWED

IN REVIEW

* Murray K, Preston N, Allen T, Zambrana-Torrelio C, Hosseini P, Daszak P. The global biogeography of human infectious diseases: a novel source of prior information for health research and management.

IN PREPARATION

* Allen T, Murray K, Zambrana-Torrelio C, Morse SS, Daszak P. Global Correlates of Emerging Zoonoses.
* White A, Allen T, Zambrana-Torrelio C, Daszak P. Untitled Leptospirosis Manuscript.

PUBLICATIONS – OTHER

* Allen T, Murray K, Olival KJ, Daszak P. Eight Critical Questions for Pandemic Prediction. In: Choffnes ER, Mack A, editors. *The Influence of Global Environmental Change on Infectious Disease Dynamics: Workshop Summary*. Washington, DC: National Academies Press (US); 2014. pp. 182–193.
* Murray K, Allen T, Loh E, Machalaba C, Daszak P. Emerging viral zoonoses from wildlife associated with animal-based food systems: risks and opportunities. In: Doyle, Michael P, editor. *Food Microbiology and Food Safety*. New York, NY: Springer; 2015. (In press)

VOLUNTEER EXPERIENCE

Riders Alliance New York, NY

Data Specialist 2015

* Used publicly available data on demographics and transit in New York City to create visualizations and analysis to advocate in support of the Move NY transit plan.

WKCR FM New York New York, NY

Intern, News Dept. Programmer 2011–2012

* Trained to operate broadcasting equipment.
* Produced several half-hour radio segments on public health and science topics.

SKILLS & CERTIFICATIONS

Computer Skills

Scientific computing: R, Python, SAS, SQL, etc.; Unix: git, bash, ssh, etc.; misc. specialized software: GIS, BUGS, Stan. Academic publication databases. Productivity/general; OS X, Windows; Microsoft Word, Excel, Powerpoint, Outlook, Apple Pages, Keynote, Numbers, etc.

Other

Certifications: CITI, HIPAA. Languages: basic knowledge of Italian and French.

Hobby

Music production and composition (esp. electronic music production techniques), DAW software, incl. Logic, Abelton Live; piano (intermediate). Other media production software: Photoshop, Final Cut; photography.