

CURRICULUM VITAE

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I. Personal Information

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II. Education

Degrees

2004 Ph.D. Biostatistics, Emory University, Atlanta, Georgia
2004 M.S. Biostatistics, Emory University, Atlanta, Georgia
1998 B.S. Applied Mathematics, South China University
of Technology, China

Other Education

1999 — 2000 Master program in Applied Statistics, Worcester Polytechnic Institute,
Worcester, Massachusetts
1998 — 1999 Master program in Applied Statistics, South China Univ. of Tech., China

III. Employment and Professional Experience

July 2016 — Present Associate Professor
November 2011 — June 2016 Assistant Professor
Department of Biostatistics, University of Florida
November 2011 — Present Affiliated Investigator
November 2010 — October 2011 Assistant Member
July 2006 — October 2010 Staff Scientist
Fred Hutchinson Cancer Research Center
September 2004 — June 2006 Research Associate
Center for Biostatistics in AIDS Research (CBAR), Harvard University.
September 2001 — August 2004 Research Assistant
Department of Biostatistics, Emory University.

IV. Scholarship

Publications in refereed journals

1. Halloran, ME, Longini, IM, Nizam, A and **Yang Y**. Containing Bioterrorist Smallpox. *Science*, 2002; 298: 1428-1432. doi.org/10.1126/science.1074674.
2. Longini IM, Halloran ME, Nizam A and **Yang Y**. Containing Pandemic Influenza with Antiviral Agents. *American Journal of Epidemiology*, 2004; 159: 623-633. doi.org/10.1093/aje/kwh092.
3. Fu, HZ, **Yang Y** and Yao, YX. A Mathematical Model in Ranking Tax Credibility of Entities. *Mathematics in Practice and Theory* (Chinese). 2004; 34: 11-15.
4. **Yang Y**, Longini, IM and Halloran, ME. Design and Evaluation of Prophylactic Intervention Using Infectious Disease Incidence Data from Close Contact Groups. *Journal of the Royal Statistical Society, Series C*. 2006; 55: 317-330. doi.org/10.1111/j.1467-9876.2006.00539.x.
5. Longini IM, Halloran ME, Nizam A, **Yang Y**, Xu S, Burke DS, Cummings DAT and Epstein J. Containing a large bioterrorist smallpox attack: A computer simulation approach. *International Journal of Infectious Disease*. 2007; 11: 98-108. doi.org/10.1016/j.ijid.2006.03.002.
6. Halloran ME, Hayden F, **Yang Y**, Longini IM and Monto A. Antiviral Effects on Influenza Viral Transmission and Pathogenicity: Observations from Household-Based Trials. *American Journal of Epidemiology*. 2007; 165: 212-221. doi.org/10.1093/aje/kwj362.
7. Mulligan K, **Yang Y**, Wininger D, Koletar S, Parker RA, Alston-Smith B, Basar M and Grinspoon S. Effects of Metformin and Rosiglitazone in HIV-Infected Patients with Hyperinsulinemia and Elevated Waist/Hip Ratio. *AIDS*. 2007; 21: 47-57. doi.org/10.1097/QAD.0b013e328011220e.
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9. **Yang Y**, Longini IM and Halloran ME. A Resampling-Based Test to Detect Person-To-Person Transmission of Infectious Diseases. *Annals of Applied Statistics*. 2007; 1:211-228. doi.org/10.1214/07-AOAS105.
10. **Yang Y**, Longini IM and Halloran ME. A Data-Augmentation Method for Infectious Disease Incidence Data from Close Contact Groups. *Computational Statistics and Data Analysis*. 2007, Vol. 51:6582-6595. doi.org/10.1016/j.csda.2007.03.007.
11. **Yang Y**, Halloran ME, Sugimoto J and Longini IM. Detecting Human-To-Human Transmission of Avian A(H5,N1) Influenza. *Emerging Infectious Disease*. 2007;

- 13:1348-1353. <https://doi.org/10.3201/eid1309.070111>.
12. Livingston EG, Cohn SE, **Yang Y**, Watts DH, Bardeguéz AD, Jones TB, Smith LM, Umbleja T and McComsey GA. Lipids & Lactate in HIV-1 Infected Pregnancies With/ Without Protease Inhibitor-Based Therapy. *Obstetrics and Gynecology*. 2007, Vol. 110:391-397. doi.org/10.1097/01.AOG.0000271210.79340.4c.
13. **Yang Y** and DeGruttola V. Resampling-based Multiple Testing Methods with Covariate Adjustment: Application to Investigation of Antiretroviral Drug Susceptibility. *Biometrics*. 2008; 64:329-336. doi.org/10.1111/j.1541-0420.2007.00883.x.
14. **Yang Y**, Gilbert, P, Longini IM and Halloran ME. A Bayesian Framework for Estimating Vaccine Efficacy per Infectious Contact. *Annals of Applied Statistics*. 2008; 2:1409-1431. doi.org/10.1214/08-AOAS193.
15. **Yang Y**, Halloran ME and Longini IM. A Bayesian Model for Evaluating Influenza Antiviral Efficacy in Household Studies with Asymptomatic Infections. *Biostatistics*. 2009; 10: 390-403. doi.org/10.1093/biostatistics/kxn045.
16. **Yang Y**, Sugimoto JD, Halloran ME, Basta NE, Chao DL, Matrajt L, Potter G, Kenah E and Longini IM. The Transmissibility and Control of Pandemic Influenza A (H1N1) Virus. *Science*. 2009; 326: 729-733. doi.org/10.1126/science.1177373.
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18. Sugimoto, JD, Borse, NN, Ta, ML, Stockman, LJ, Fischer, GE, **Yang, Y**, Halloran, ME, Duchin, JS and Longini, IM. The effect of age on transmission of clinical pandemic influenza A (H1N1) during an outbreak in a camp and households in Washington State, United States. *Epidemiology*. 2011; 22(2): 180-187. doi.org/10.1097/EDE.0b013e3182060ca5.
19. Wang Y, Feng Z, **Yang Y**, Self SG, Gao Y, Wakefield J, Wang L, Zhang J, Chen X, Yao L, Stanaway J, Wang Z, Yang W. Hand, Foot and Mouth Disease in China: Patterns of Spread during 2008-2009. *Epidemiology*. 2011; 22: 781-792. doi.org/10.1097/EDE.0b013e318231d67a. (**Corresponding Author**).
20. **Yang Y**, Longini IM, Halloran ME and Obenchain V. A hybrid EM and Monte Carlo EM Algorithm and Its Application to Analysis of Transmission of Infectious Diseases. *Biometrics*. 2012; 68: 1238-1249. doi.org/10.1111/j.1541-0420.2012.01757.x.
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22. Fang, L-Q., Li, X-L., Liu, K., Li, Y-J., Yao, H-W., Liang, S., **Yang, Y**, Feng, Z-J., Gray, G. C. and Cao, W-C. Mapping spread and risk of avian influenza A (H7N9) in China. *Nature Scientific Reports*. 2013; 3: Article 2722. doi.org/10.1038/srep02722.
23. Zhou Y-B, Wang Q-X, Liang S, Gong Y-H, Nie S-J, Nan L, Yang A-H, Liang Q, **Yang Y**, Song X-X, Jiang Q-W. HIV-, HCV-, and Co-Infections and Associated Risk Factors among

Drug Users in Southwestern China: A Township-Level Ecological Study Incorporating Spatial Regression. *PLoS One*. 2014; doi.org/10.1371/journal.pone.0093157.

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Fang L-Q and Cao W-C. Risk distribution of human infections with avian influenza H7N9 and H5N1 virus in China. *Nature Scientific Report*. 2015; 5: 18610. doi.org/10.1038/srep1861.

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80. Madewell ZJ, Piontti APY, Zhang Q, Burton N, **Yang Y**, Longinia IM, Hallorand ME, Vespignani A, Dean NE. Using simulated infectious disease outbreaks to inform site selection and sample size for individually randomized vaccine trials during an ongoing epidemic. *Clinical Trials* 2021; In press. <https://doi.org/10.1177/17407745211028898>.

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84. Ponpetch K, Erko B, Bekana T, Kebede T, Tian D, Yang Y, Liang S. Environmental Drivers and Potential Distribution of *Schistosoma mansoni* Endemic Areas in Ethiopia. *Microorganisms* 2021; 9:2144. doi.org/10.3390/microorganisms9102144.

85. Dean N and Yang Y. Discussion of "Regression Models for Understanding COVID-19 Epidemic Dynamics with Incomplete Data". *JASA*. 2021; In press.

Work in progress

1. Tsang KL, Zhang AR, Longini IM, Cowling B, Fang LQ, **Yang Y**. Transmission risk of SARS-CoV-2 among close contacts of confirmed cases in Shandong Province, China. In preparation.
2. Liu MJ, Jing QL and **Yang Y**. Adjusting for bias induced by surveillance threshold for institutional outbreak investigation. In preparation.
3. Liu MJ, Li H, Zhang AR, Fang LQ, Liu W, **Yang Y**. Genetic determinants for clinical outcomes in patients of Severe Fever Thrombocytopenia Syndrome. In preparation.
4. Jalali N, Zhang AR, Fang LQ, Li ZJ, **Yang Y**. The role of human mobility in the transmission of COVID-19 in Hubei Province, China. In preparation.
5. Zhang AR, Liu K, Shi WQ, Li XI, Liu MJ, Zhang WH, Zhao GP, Chen JJ, Zhang XA, Miao D, Ma W, Fang LQ, **Yang Y**, Liu W. Ecology of Middle East Respiratory Syndrome Coronavirus, 2012–2020: a machine learning modeling analysis. In preparation. (co-senior author)
6. Sugimoto J, **Yang Y**, Hosford J, Lauzardo M, Ahmedov S, Cooker RL, Halloran EM, Longini IM and Fennelly K. Re-defining super-spreading in tuberculosis. In preparation.
7. Tsang KL, Halloran ME, Rojas DP, Longini IM, **Yang Y**. Transmissibility of Zika disease and the impact of reporting bias in Colombia. In preparation.
8. **Yang Y**, Zhu Y-F, Li X-L and Fang L-Q. Re-visit SARS: Transmissibility, Natural History, and Seasonality. In preparation.
9. Zhu Y-F, **Yang Y** and Halloran ME. Model Selection in the Presence of High-Dimensional Missing Data with Application to Infectious Disease Data. In preparation.

Book Chapters

Yang Y. (2020) Geographically weighted regression. In X. Chen & D. Chen (Eds.), *Statistical Methods for Global Health and Epidemiology: Principles, Methods and Applications* (pp. 277-316). Cham, Switzerland: Springer

Conference Abstracts

Regular talks

1. Yang Y. and Longini I.M.: New methods for the estimation of influenza antiviral agent efficacy. *Joint Statistical Meeting*, San Francisco, CA, 2003.
2. Yang Y. and Longini I.M.: Estimation of influenza antiviral agent efficacy. *International Biometric Society/Eastern North American Region Spring Meeting*, Tampa, FL, 2003.
3. Mulligan, K., Yang, Y., Wininger, D., Koletar, S., Parker, R.A., Alston-Smith, B., Basar, M. and Grinspoon, S.: Effects of Metformin and Rosiglitazone on Body Composition in

HIV-Infected Patients with Hyperinsulinemia and Elevated Waist/Hip Ratio: A Randomized, Placebo Controlled Trial. *Conference on Retroviruses and Opportunistic Infections*, Denver, CO, 2006.

4. Shikuma, C.M., Yang, Y., Meyer, W.A., Glesby, M., Tashima, K.T., Ribaud, H., Webb, N., Bastow, B., Kuritzkes, D.R., and Gulick, R.M.: Metabolic Analyses within A5095: Effect of Efavirenz against an All-Nucleoside/Nucleotide Background. *Conference on Retroviruses and Opportunistic Infections*, Denver, CO, 2006.

5. Yang, Y. and DeGruttola, V.: Resampling-based Multiple Testing Methods with Covariate Adjustment: Application to Investigation of Antiretroviral Drug Susceptibility. *Workshop on Quantitative Methods for Research on Antiviral Resistance*, Boston, MA, 2006

6. Yang, Y., Halloran, M.E., Daniels, M. and Longini, I.M.: Modeling Competing Infectious Pathogens from a Bayesian Perspective: with Application to Influenza Studies with Incomplete Laboratory Results. *MFO workshop: Design and analysis of Infectious Disease Studies*, Mathematisches Forschungsinstitut Oberwolfach, Germany, 2009

7. Yang, Y., Halloran, M.E., Daniels, M. and Longini, I.M.: A Partial Monte carlo EM Algorithm for Analyzing Transmission of Infectious Diseases. *MIDAS Network Meeting*, Atlanta, GA, 2011

8. Yang Y.: Assessing the Transmissibility of TB and Risk Factors in Close Contact Groups. *MIDAS Network Meeting*, Austin, TX, 2013.

Invited talks

1. Yang, Y., Gilbert, P., Longini, I.M. and Halloran, M.E.: A Bayesian Framework for Estimating Vaccine Efficacy per Infectious Contact. *Disease Dynamics 2008*, University of British Columbia, Vancouver, British Columbia, 2008.

2. Yang, Y.: Statistical Analysis of Epidemics with Asymptomatic Infections and/or Co-circulating Pathogens. *US CDC*, Atlanta, GA, 2011.

3. Yang Y.: Transmissibility and control of avian influenza A (H7N9) virus. *Sichuan Provincial CDC*, Sichuan, China, 2013.

4. Yang Y.: Methods for estimating the dengue vaccine efficacy in cohort studies. *Zhongshan Municipal CDC*, Guangdong, China, 2014.

5. Yang Y.: Spatial-temporal modeling for surveillance data of multiple pathogens. *Workshop on modeling hand, foot and mouth disease sponsored by China CDC*, Beijing, China, 2015.

6. Yang Y. and Mingjin Liu: Statistical adjustment for reporting bias in surveillance data of infectious diseases. *2018 International Indian Statistics Association (IISA) International Conference on Statistics*, Gainesville, Florida.

7. Yang Y.: Modeling infectious diseases. School of Public Health, Shandong University, Jinan, Shandong Province, China, 2019.

8. Yang Y.: Modeling Transmission of Infectious Diseases. Workshop on Pedestrian Dynamics and Epidemic Modeling. Pensacola, FL 2020.

9. Yang Y.: Household Transmission of SARS-CoV-2: The Role of Presymptomatic and Asymptomatic Infectivity. American Society of Tropical Medicine and Hygiene 69th Annual Meeting, 2020.

10. Household Transmission of COVID-19 and Risk Factors for Susceptibility and Infectivity in Wuhan, the First Epicenter. 2021 ASA Florida Chapter Meeting, COVID-19 Panel Discussion, April 2, 2021.
11. Yang Y.: Inference on Vaccine Efficacies in the Presence of Missing Data. US CDC Statistical Advisory Group Seminar, April 29, 2021.
12. Statistical Adjustment for Reporting Bias in Surveillance Data of Infectious Diseases. Western North American Region (WNAR) of The International Biometric Society (IBS) 2021. June 15, 2021.

V. Teaching and Advising

Teaching

Course Number	Course Title	Dates
PHC7066	Large sample theory	Spring, 2012—2015
PHC6937	Applied Survival Analysis	Fall, 2013
PHC6092	Biostatistical Theory	Fall, 2015-2020

Graduate Committee Activities (Selected)

Student	Topic	Home Department	Completion Date (* Expected)	Role
Mingjin Liu	Analytic Methods for Infectious Disease Transmission Dynamics Based On Surveillance and Genetic Data	Biostatistics	2021*	Advisor
Neda Jalali	Infectious Disease Modeling with Limited Surveillance Data	Biostatistics	2021*	Advisor
Hasibul Hasan	Efficient Sampling in Bayesian Computing for Continuous-Time Infectious Disease Transmission in Close Contact Groups	Biostatistics	2021*	Advisor
Ya Meng	HIV partner study and dengue vaccine efficacy estimation	Biostatistics	2015	Advisor
Alex Kirpich	Modeling cholera transmission in Haiti	Biostatistics	2015	Co-Advisor
Yifan Zhu	Model selection in the presence of high-dimensional data	Biostatistics	2015	Co-Advisor

Samson Grebremariam	Joint model of transmission, pathogenicity and immunology for dengue epidemics	Biostatistics	2015	Co-Advisor
Keerati Ponpetch	Environmental Determinants and Spatial Distribution of Schistosomiasis in Ethiopia	Environmental and Global Health	2020	Committee Member
Helena J. Chapman	Latent TB infection in Dominican Republic	Environmental and Global Health	2017	Committee Member
Xueying Tang	Bayesian Data Analysis under Shrinkage Priors	Statistics	2017	Committee Member
Guangyu Zhu	Likelihood-Based Sparse Partial least Squares	Statistics	2016	Committee Member
Mary N. Seraphin	Tuberculosis among Haitian immigrants in Florida	Epidemiology	2016	Committee Member

VI. Services

Professional Services

- Editor Board Member, Infectious Medicine, 2021—
- Academic Editor, PLoS ONE, 2011—present
- Associate Editor, Biometrics, 2015—present
- Referee for Biometrics, Biostatistics, AOAS, American Journal of Epidemiology, Epidemics, PLoS Medicine, PLoS Computational Biology, British Medical Journal, Lancet series journals Nature Communications, Science, Science Translational Medicine, PNAS, Vaccine
- WHO working group of vaccine trial design for Marburg virus, 2021—
- NIH IRAP study section review panel, Jul. 8-9, 2021
- NIH 2021/01 ZAI1 MSA-W (J1) 1 review panel for “Emergency Awards: Rapid Investigation of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and Coronavirus Disease 2019”, Aug. 27, 2020
- University of Florida Research Opportunity Seed Fund Review - Biomed Basic Committee, 2017
- Wellcome Trust proposal review. 2009

Services at the University of Florida

- Member, Admission Committee, 2014—present
- Chair, Exam Committee, 2019—present

VII. Grants, Contracts and Awards

Ongoing Grants

- R56 AI148284 (PI: Longini) 09/2020 - 08/2021
NIH: Mathematical and Statistical Methods for the Control of Global Infectious Disease Threats
Role: Co-Investigator
- R01 AI139761 (Dean) 07/01/2018-06/30/2023
NIH/NIAID: *Design and Analysis of Vaccine Trials for Emerging Infectious Disease Threats*
Role: Co-Investigator
- R01 AI120997 (PI: Gordon) 01/2017 - 12/2021
NIH: Dynamics of Influenza Transmission in Nicaraguan Households
Role: Co-Investigator
- OPP1175487 (PI: Havelaar) 01/2020 - 12/2022
Bill & Melinda Gates Foundation: *Campylobacter Genomics and Environmental Enteric Dysfunction study*
Role: Co-Investigator
- OPP1205215 (Liang) 11/26/2018-11/25/2020
Bill&Melinda gates Foundation: *Exposure Assessment of Campylobacter infections in Rural Ethiopia*
Role: Co-Investigator
- R01 AI126357 (PI: Morris) 7/1/2017 – 6/30/2022
NIH/NIAID: *Cholera transmission and evolution in Port-au-Prince, Haiti*
Role: Co-Investigator
- U54 OH011230 (PI: Morris) 9/30/2016 – 9/29/2022
UD CDC: *Southeastern and Coastal Center for Agricultural Health and Safety*
Role: Core Biostatistician

Completed Grants

- RAPID 2034364 (PI: Li, Ninghui) 7/1/2020 – 6/30/2021
NSF: *Collaborative: PPSRC: Privacy-Preserving Self-Reporting for COVID-19*
Role: Co-PI
- R21 AI119773 7/2015 – 6/2017
NIH/NIAID : *Spatial-Temporal Modeling for Surveillance Data of Multiple Pathogens.*
Role: PI
- R01 AI116770 (PI: Kenah) 1/2016 - 12/2020
NIH/NIAID: *Regression, Phylogenetics, and Study Design in Infectious Disease Epidemiology*
- R37 AI32042-19 Halloran (PI) 4/1992 – 5/2020
NIH/NIAID: *Methods for Evaluating Vaccine Efficacy.*
Role: Co-Investigator
- U54 GM111274 Halloran (PI) 9/2014 – 6/2019
NIH/NIGMS: *Modeling of Infectious Disease Agent Study Centers for Excellence.*
Role: Co-Investigator
- U01 GM070749-07 Halloran Longini (MPI) 5/2004 – 4/2014

NIH/NIGMS: *Containing Bioterrorist and Emerging Infectious Diseases*

Role: Co-Investigator

- R01 A0I51164 07A1 DeGruttola (PI) 12/2008 – 11/2011

NIH/NIAID: *Methods for Long-Term Follow-Up of HIV-Infected Patients*

Role: PI of subcontract

- Corporation-funded research Halloran (PI) 11/2011 – 8/2012

Medimmune Inc.: *Efficacy of the Live Attenuated Influenza Vaccine in a cohort study*

Role: PI of subcontract

- Contract Longini (PI) 7/2014 - 6/2015

County of Los Angeles, Department of Public Health

Using TranStat for Emerging Infectious Diseases

Role: Co-Investigator

VIII. Awards and Honors

- 2017 Term Professorship, School of PPHP, Univ. of Florida
- 2012 Best paper of the year, School of PPHP, Univ. of Florida
- 2000 — 2004 Graduate fellowship, Emory University
- 1999 — 2000 Graduate fellowship, Worcester Polytechnic Institute
- 1997 Excellent college student with outstanding scholarship
- 1997 Outstanding college student in Guangdong Province, China
- 1997 P&G Scholarship
- 1997 Honorable mention in the international Mathematical Contest in Modeling (MCM)
- 1996 Excellent college student with first-place scholarship
- 1995 Excellent college student with second-place scholarship