Stephen A. Lauer Curriculum Vitae [1]

Contact

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Pronouns: he/him/his

Education

2014-18 **PhD** Biostatistics, University of Massachusetts, Amherst
Expected defense date: Summer 2018
Thesis title: *Methods for making policy-relevant forecasts of infectious disease incidence*
Thesis advisor: Nicholas G. Reich

2012-14 **MS** Biostatistics, University of Massachusetts, Amherst

2005-09 **BS** Business – Operations Management, University of Maryland, College Park

Awards

2015 First place, Award for Outstanding Research Articles in Biosurveillance, International Society of Disease Surveillance

2014-16 Dean's PhD Fellowship, University of Massachusetts, Amherst

2013 Second place, Poster at the 16th Annual Research Day, University of Massachusetts, Amherst

2008-09 Academic Honors, University of Maryland, College Park

Publications

Lauer SA, Sakrejda K, Ray EL, Keegan LT, Bi Q, Suangtho P, Hinjoy S, Iamsirithaworn S, Suthachana S, Cummings DAT, Lessler J, Reich NG. *Prospective forecasts of annual dengue hemorrhagic fever incidence in Thailand, 2010-2014*, Proceedings of the National Academy of Sciences, *in press*.

Ray EL, Sakrejda K, **Lauer SA**, Johansson MA, Reich NG. *Infectious disease prediction with kernel conditional density estimation*, Statistics in Medicine, 2017. [html; preprint]

Reich NG, **Lauer SA**, Sakrejda K, Iamsirithaworn S, Hinjoy S, Suangtho P, Suthachana S, Clapham H, Salje H, Cummings DAT, Lessler J. *Challenges in real-time prediction of infectious disease: a case study of dengue in Thailand*, PLOS Neglected Tropical Diseases, 2016, 10(6): e0004761. [html; pdf]

Reich NG, Lessler J, Sakrejda K, **Lauer SA**, Iamsirithaworn S, Cummings DAT. *Case studies in evaluating time series prediction models using the relative mean absolute error*, American Statistician, 2016, 70(3):285-292. [html; pdf]

Reich NG, Cummings DAT, **Lauer SA**, Zorn M, Robinson C, Nyquist AC, Price CS, Simberkoff M, Radonovich LJ, Perl TM. *Triggering Interventions for Influenza: The ALERT Algorithm*, Clinical Infectious Diseases, 2015, 60(4): 499–504. [html ; pdf]

Lauer SA, Kleinman KP, Reich NG. *The Effect of Cluster Size Variability on Statistical Power in Cluster Randomized Trials*, PLoS ONE, 2015, 10(4): e0119074 [html ; pdf]

Book Chapters

Lauer SA, Brown AC, Reich NG. *Infectious Disease Forecasting for Public Health*, *submitted*.

Web Apps & Software

Ramos ER, Ramakrishnan A, Kiridly, and **Lauer SA**. *SEIGMA: Educational Status Shiny App*, Web App, 2015. https://seigma.shinyapps.io/education/.

[1] Last updated February 8, 2018

Ramos ER, Ramakrishnan A, Kiridly, and **Lauer SA**. *SEIGMA: Marital Status Shiny App*, Web App, 2015. https://seigma.shinyapps.io/marital/.

Ramos ER, Ramakrishnan A, Kiridly, and **Lauer SA**. *SEIGMA: Household Income Shiny App*, Web App, 2015. https://seigma.shinyapps.io/income/.

Ramos ER, Ramakrishnan A, Kiridly, OBrien SE, and **Lauer SA**. *SEIGMA: Suicide Shiny App*, Web App, 2015. https://seigma.shinyapps.io/suicide/.

Lauer SA, Reich NG. *The ALERT Algorithm*, Web App, 2014. http://iddynamics.jhsph.edu/apps/shiny/ALERT/.

Reich NG, **Lauer SA**. *ALERT—The Above Local Elevated Respiratory Illness Threshold (ALERT) algorithm (v0.1)*, R Package, 2014. https://github.com/nickreich/ALERT.

Abstracts

Lauer SA, Balzer LB, Ray EL, Iamsirithaworn S, Lessler J, Reich NG. *Building on forecasting models to assess the impact of an intervention*, Epidemics 6, Nov. 28-Dec. 1, 2017.

Lauer SA, Reich NG, Ray EL, Sakrejda K, Lessler J, Keegan LT, Bi Q, Cummings DAT, Iamsirithaworn S, Suangtho P, Hinjoy S, Suthachana S, Laosiritaworn Y. *Prospective forecasts of annual dengue hemorrhagic fever incidence in Thailand, 2010-2014*, Oral Presentation, MIDAS Network Meeting, May 21-25, 2017.

Lauer SA, Sakrejda K, Ray EL, Clapham H, Suangtho P, Hinjoy S, Iamsirithaworn S, Suthachana S, Cummings DAT, Lessler J, Reich NG. *Early season incidence, susceptibility, and weather predicts annual dengue hemorrhagic fever incidence in Thailand*, American Society for Tropical Medicine and Hygiene 65th Annual Meeting, Nov. 13-17, 2016.

Lauer SA, Sakrejda K, Ray EL, Clapham H, Suangtho P, Hinjoy S, Iamsirithaworn S, Suthachana S, Cummings DAT, Lessler J, Reich NG. *Early season weather and incidence predicts annual dengue hemorrhagic fever incidence in Thailand*, Epidemics 5, Dec. 1-4, 2015.

Lauer SA, Sakrejda K, Clapham H, Salje H, Suangtho P, Hinjoy S, Iamsirithaworn S, Suthachana S, Cummings DAT, Lessler J, Reich NG. *Real-time prediction of dengue fever in Thailand*, Oral Presentation, American Society for Tropical Medicine and Hygiene 64th Annual Meeting, Oct. 25-29, 2015.

Reich NG, Sakrejda K, **Lauer SA**, Cummings DAT, Suangtho P, Hinjoy S, Iamsirithaworn S, Suthachana S, Clapham H, Salje H, Lessler J. *Real-time forecasting of the 2014 dengue fever season in Thailand*, American Society for Tropical Medicine and Hygiene 63th Annual Meeting, Nov. 2-6, 2014.

Lauer SA, Kleinman KP, Reich NG. *Variable group sizes in cluster randomized trials reduces power*, Eastern North American Region of the International Biometric Society 2014 Spring Meeting, Mar. 16-19, 2014.

Lauer SA, Kleinman KP, Reich NG. *Cluster randomized trials and statistical power*, Oral Presentation, 141st American Public Health Association Annual Meeting and Exposition, Nov. 2-6, 2013.

Grants

Scored

NIH F31 Individual Predoctoral Fellowship (Resubmission), *Designing statistical models to predict dengue fever outbreaks in real time*, Score: 27, Payline: 22, August 2015.

NIH F31 Individual Predoctoral Fellowship, *Designing statistical models to predict dengue fever outbreaks in real time*, Score: 31, Payline: 22, April 2015.

Professional Activities & Service

Fall 2015-Spring 2016	Graduate Student Senator, University of Massachusetts, Amherst: elected by peers within the Department of Biostatistics and Epidemiology to represent them in the Graduate Student Senate.
Fall 2014-Spring 2015	Member, Biostatistics Faculty Search Committee, University of Massachusetts, Amherst: chosen by the Department of Biostatistics and Epidemiology to be the doctoral representative on a committee for hiring a tenure-track biostatistics faculty.
Spring 2014-Spring 2016	Co-founder & Treasurer, Graduate Researchers in Data (GRiD): elected in consecutive years to be the Treasurer of a Graduate Student Organization which had weekly meetings on novel topics in data science. Additionally, we hosted one weekend-long hackathon each year (HackEbola and HackPVTA), both of which drew over 50 graduate students.

Editorial Activities

Reviewer	PLOS ONE & PLOS NTDs

Mentorship & Teaching

MS Thesis Committee	Kristina Yamkovoy (Fall 2017-*present*)
Lecturer	Introduction to Statistical Computing in R (PUBHLTH 497R), undergraduate-level seminar (1 credit). Designed and taught a programming class to complement an introductory statistics course for public health students. Fall 2016 & 2017.