

Stephen A. Lauer Curriculum Vitae ¹

Contact

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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, 2018. [[html](#)]

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](#)]

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](#)]

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, 2014, 60(4): 499–504. [[html](#) ; [pdf](#)]

Book Chapters

Lauer SA, Brown LC, 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/>.

¹Last updated April 19, 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, O'Brien 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*, MIDAS Network Meeting, Apr. 3-5, 2018.

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.

Lauer SA, Reich NG. *Cluster randomized trials and statistical power*, 4th Annual UMass Clinical and Translational Science Research Retreat, May 8, 2013.

Lauer SA, Reich NG. *Group variation and power in cluster randomized trials*, 16th Annual UMass School of Public Health and Health Sciences Research Day, Apr. 2, 2013.

**Professional
Activities &
Service**

Fall 2015- Graduate Student Senator, University of Massachusetts, Amherst
Spring 2016

Spring 2014- Co-founder & Treasurer, Graduate Researchers in Data (GRiD)
Spring 2016

Fall 2014- Member, Biostatistics Faculty Search Committee, University of Massachusetts, Amherst
Spring 2015

Reviewer for: PLOS ONE & PLOS NTDs

**Mentorship
& Teaching**

Undergraduate Kristina Yamkovoy (Fall 2017-*present*)
Honors
Research
Thesis
Committee

Undergraduate Jordan Aron (Fall 2017)
Interns
Mentoring

Lecturer Introduction to Statistical Computing in R (PUBHLTH 497R), Undergraduate-level seminar
(1 credit), Fall 2016 & 2017.