

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

Brown AC, **Lauer SA**, Robinson CC, Nyquist AC, Rao S, Reich NG. *Evaluating the ALERT algorithm for local outbreak onset detection in seasonal infectious disease surveillance data, submitted.*

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.*

¹Last updated June 7, 2018

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

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.