

## BENJAMIN ALTHOUSE – CURRICULUM VITAE

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### CONTACT

Institute for Disease Modeling  
3150 139th Ave SE  
Bellevue, WA 98005  
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Santa Fe Institute  
1399 Hyde Park Rd  
Santa Fe, NM, 87501  
E-mail: althouse@santafe.edu

Homepage: <http://www.benalthouse.com/academics>  
Google Scholar: <http://scholar.google.com/citations?user=FUOBYjkAAAAJ>

### PERSONAL DATA

Date of birth January 30, 1985

### PROFILE

#### RESEARCH INTERESTS

Mathematical modeling of infectious disease, ecology of infectious disease, medical/healthcare economics, statistical and time series methods.

#### OTHER INTERESTS

Downhill skiing, running, hiking, graphic design, jazz music and photography.

### EDUCATION 2013 – 2015

**Omidyar Postdoctoral Fellowship** Santa Fe Institute, Santa Fe, NM

2010 – 2013

**PhD** Epidemiology; Johns Hopkins University, Baltimore, MD  
Thesis: *Mechanistic Modeling of Sylvatic Arboviruses in Senegal*  
Advisor: Derek Cummings

2012

Complex Systems Summer School, Santa Fe Institute, Santa Fe, NM

2009 – 2010

**ScM** Biostatistics; Johns Hopkins University, Baltimore, MD  
Thesis: *A Multi-host, Multi-vector SIR Model of Dengue Fever in Senegal*

2003 – 2008

**BS** Mathematics; University of Washington, Seattle, WA  
**BS** Biochemistry; University of Washington, Seattle, WA

### POSITIONS

APRIL 2015 –

Affiliate Faculty, Department of Biology, New Mexico State University

JANUARY 2015 –

Research Scientist, Institute for Disease Modeling

SEPTEMBER 2013 – Omidyar Fellow, Santa Fe Institute  
 JUNE 2015

AUGUST 2010 – Doctoral Student – Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health  
 AUGUST 2013

AUGUST 2009 – Master’s Student – Department of Biostatistics, Johns Hopkins Bloomberg School of Public Health  
 AUGUST 2010

JUNE 2008 – Research Associate, Prof. Carl Bergstrom’s lab, Department of Biology, University of Washington  
 AUGUST 2009

JUNE 2006 – MAY 2008 Undergraduate Research Assistant, Bergstrom lab

**AWARDS**

APRIL 2010 – NSF Graduate Research Fellowship  
 AUGUST 2013

JUNE 2009 Best Poster, Gordon Research Conference (Microbial Population Biology)

JANUARY – JUNE 2008 Mary Gates Research Scholarship (award of \$4,000)

JANUARY – OCTOBER 2007 Howard Hughes Medical Institute Integrative Research Internship (award of \$7,000)

**GRANTS**

*awarded*

Santa Fe Institute & MIDAS Center for Communicable Disease Dynamics Harvard University, for SFI Working Group, *Next generation surveillance for the next pandemic*, \$82,794 (2014).

The Monday Campaigns, J.W. Ayers (PI) 12/13/12–1/13/13: *Is Monday the Healthiest Day?*, Role: Investigator

Institute for Global Tobacco Control, Ayers (PI) 12/1/12–12/1/13: *Harnessing the Web for Real-Time Global Tobacco Control*, Role: Investigator

Google Research Award, Ayers (PI) 7/1/11–7/1/12: *Using Aggregate Search Queries for Real-Time Mental Health Surveillance in the United States*, Role: Consultant

*submitted*

*Quantifying Network Resilience and Vulnerability to Behaviors Using Social Media*, PI: Del Valle & Althouse, NIH RO1, Total requested indirect costs: \$2,496,924

**PUBLICATIONS**

H. DeAngelis, S. V. Scarpino, M. C. Fitzpatrick, A. P. Galvani, B. M. Althouse, *Epidemiological and economic impacts of priming with whole-cell Bordetella pertussis vaccine*, JAMA Pediatrics, *in press*

B. M. Althouse\*, S. V. Scarpino\*, L. Ancel Meyers, J. W. Ayers, M. Bargsten, J. Baumbach, L. Castro, H. Clapham, D. Cummings, S. Del Valle, S. Epperson, S. Eubank, G. Fairchild, L. Finelli, N. Generous, D. George, D. Harper, L. Hebert-Dufresne, M. Johansson, K. Konty, M. Lipsitch, G. Milinovich, J. Miller, E. Nsoesie, D. Olson, M. Paul, P. Polgreen, R. Priedhorsky, J. Read, I. Rodríguez-Barraquer, D. J. Smith, C. Stefansen, D.L. Swerdlow, D. Thompson, A. Vespignani, A. Wesolowski, *Enhancing disease surveillance with novel data streams*, EPJ Data Science, 4:17, \*These authors contributed equally

J. W. Ayers, B. M. Althouse, *“Tips From Former Smokers” Can Benefit from Considering all Available Data*, American Journal of Preventative Medicine, *in press*

J. W. Ayers, B. M. Althouse, J.-P. Allem, E. C. Leas, M. Dredze, R. Williams, *Revisiting the Rise of Electronic Nicotine Delivery Systems Using Search Query Surveillance*, *American Journal of Preventive Medicine*, in press

B. M. Althouse, S. V. Scarpino, *Asymptomatic transmission and the resurgence of Bordetella pertussis*, *BMC Medicine*, *BMC Medicine* 2015, 13:146

Media coverage: The New York Times, Minnesota Public Radio, MSN.com, Healio, U.S. Pharmacist, Univision, Medical Daily, Medical Xpress, Science Daily, Medical News Today, Health Medicine Network, Infection Control Today

L. Hébert-Dufresne, B.M. Althouse, *Complex dynamics of synergistic coinfections on realistically clustered networks*, *Proceedings of the National Academy of Sciences of the United States of America*, 112 (33) 10551-10556, doi:10.1073/pnas.1507820112, 2015

B. M. Althouse, K. A. Hanley, *The Tortoise or the Hare? Impacts of Within-Host Dynamics on Transmission Success of Arthropod-Borne Viruses*, *Phil. Trans. R. Soc. B.*, 370 (1675), 20140299

J.-P. Allem, J.W. Ayers, B.M. Althouse, R. Williams, *When a Ban Really isn't a Ban: Internet Loopholes and Djarum Flavoured Cigarettes in the United States*, *Tobacco Control*, in press

C. L. Jo, J. W. Ayers, B. M. Althouse, S. Emery, J. Huang, K. M. Ribisl, *U.S. Consumer Interest in Non-cigarette Other Tobacco Products Spikes around the 2009 Federal Tobacco Tax Increase*, *Tobacco Control*, in press

J.W. Ayers, B.M. Althouse, S. Emery, *Changes in Internet searches associated with the "Tips from Former Smokers" campaign*, *American Journal of Preventive Medicine*, 48 (6), e27, 2015

M. M. Tanaka, B. M. Althouse, C. T. Bergstrom, *Timing of antimicrobial use influences the evolution of antimicrobial resistance during disease epidemics*, *Evolution, Medicine, and Public Health*, 2014(1):150-161, 2014

S. M. Noar, B. M. Althouse, J. W. Ayers, D. B. Francis, K. M. Ribisl, *Cancer information seeking in the digital age: Effects of Angelina Jolie's prophylactic mastectomy announcement*, *Medical Decision Making*, 35(1), 16–21, January 2015

B. M. Althouse, K.A. Hanley, M. Diallo, A.A. Sall, Y. Ba, O. Faye, D. Diallo, D.M. Watts, S. C. Weaver, D.A.T. Cummings, *Impact of climate and mosquito vector abundance on sylvatic arbovirus circulation dynamics in Senegal*, *American Journal of Tropical Medicine and Hygiene*, 92(1), 88–97, January 2015

B.M. Althouse, L. Hébert-Dufresne, *Epidemic Cycles Driven by Host Behaviour*, *Journal of the Royal Society Interface*, vol. 11 no. 99, October 2014

J. W. Ayers, B. M. Althouse, M. Dredze, *Could Behavioral Medicine Lead the Web Data Revolution?*, *JAMA*, 311(14), 1399–1400, 2014

M. Santillana, D. W. Zhang, B. M. Althouse, J. W. Ayers, *What Can Digital Disease Detection Learn from (an External Revision to) Google Flu Trends?*, *American Journal of Preventative Medicine*, (47)3, 341-7, 2014

J. W. Ayers, B. M. Althouse, M. Dredze, M. Johnson, J. E. Cohen, *What's the Healthiest Day? Circaseptan (Weekly) Rhythms in Healthy Considerations*, *American Journal of Preventative Medicine*, (47)1, 73-76, July 2014

Media coverage: The Atlantic, Medical Daily, Bloomberg Business Week, Science Daily, Men's Fitness, Prevention, Refinery 29, Montgomery Advertiser, The Business Standard (India) India.com Health, Delhi Daily News, New Tang Dynasty Television (China), iAfrica.com, Malaysian Digest, Medycyna Praktyczna (Poland), and Sassari Notizie (Italy)

B. M. Althouse, A.P. Durbin, K.A. Hanley, S.B. Halstead, S. C. Weaver, D.A.T. Cummings, *Viral Kinetics of Primary Dengue Virus Infection in Non-Human Primates: A Systematic Review and Individual Pooled Analysis*, *Virology*, 452-453: 237-246, March 2014

J. W. Ayers, B. M. Althouse, K. M. Ribisl, S. Emery, *Digital Detection for Tobacco Control: Online Reactions to the United States' 2009 Cigarette Excise Tax Increase*, *Nicotine & Tobacco Research*, 16(5): 576-583, January 2014

S. M. Noar, K. M. Ribisl, B. M. Althouse, J. F. Willoughby, J. W. Ayers, *Using Digital Surveillance to Examine the Impact of Public Figure Pancreatic Cancer Announcements on Media and Search Outcomes*, *Journal of the National Cancer Institute*, 47:188-94, January 2014

J. W. Ayers, B. M. Althouse, M. Johnson, J. E. Cohen, *Weekly "Circaseptan" Rhythms in Smoking Cessation Considerations*, *JAMA Internal Medicine*, 174(1):146-8, January 2014

Media coverage: New York Times, WebMD, USA Today, NBCNews.com, New York Daily News, Economic Times, Huffington Post, Sacramento Bee, Philadelphia Inquirer, Science World Report, Sci-Tech Today, U-T San Diego, Medical Daily, The Inquisitr, The Stir, University Herald

J. W. Ayers, B. M. Althouse, S. M. Noar, J. E. Cohen, *Do Celebrity Cancer Diagnoses Promote Primary Cancer Prevention?*, *Preventive Medicine*, 58: 81-84, January 2014

Media coverage: NY Times, Huffington Post, The Hindu, Science Daily, Medical Daily, Scope, The Medical News, redOrbit.com, AllVoices, Medical Xpress, India.com Health

B. M. Althouse, J. Patrick-Allem, M. A. Childers, M. Dredze, J. W. Ayers, *Population Health Concerns During the United States' Great Recession*, *American Journal of Preventative Medicine*, 46(2):166-170, 2013

Media coverage: Times of London, New York Times, Huffington Post, Science 2.0, Science Daily, Free Press Journal, India.com Health, Imperial Valley News, RedOrbit

A.S. Azman, J.H. Stark, B. M. Althouse, C.J. Vukotich, S. Stebbins, D.S. Burke, D.A.T. Cummings, *Household Transmission of Influenza A and B in a School-based Study of Non-Pharmaceutical Interventions*, *Epidemics*, 5 (4), 181-186, 2013

O. J. Bienvenu, J. Gellar, B. M. Althouse, E. Colantuoni, T. Sricharoenchai, P. A. Mendez-Tellez, C. Shanholtz, C. R. Dennison, P. J. Pronovost, D. M. Needham, *Post-traumatic stress disorder symptoms after acute lung injury: a 2-year prospective longitudinal study*, *Psychological Medicine*, 43 (12): 2657-2671, 2013

Media coverage: New York Times, Boston Globe, Philadelphia Inquirer, Medcity News

J. W. Ayers, B. M. Althouse, J. P. Allem, J. N. Rosenquist, D. E. Ford, *Seasonality in Seeking Mental Health Information on Google*, *American Journal of Preventative Medicine*, Vol. 44, Issue 5, May 2013

Media coverage: New York Times, Time, The Atlantic, Popular Science, Wired, Huffington Post, Scientific American, Health Magazine, U-T San Diego, Philadelphia Inquirer, New York Daily News, Minneapolis Star Tribune, US News and World Reports, Sky News Australia, 3News New Zealand, Medical Daily, Medical Xpress, redOrbit.com,

iTech Post, HealthDay News, Newsroom America, health 24, Science Daily, PsychCentral, InformationWeek

O. Patterson-Lomba, B. M. Althouse, G. M. Goerg, L. Hébert-Dufresne, *Optimizing Treatment Regimes to Hinder Antimicrobial Resistance Across Time Scales*, PLoS One, 8(3): e59529. March 2013

L. Hébert-Dufresne, O. Patterson-Lomba, G. M. Goerg, B. M. Althouse, *Pathogen mutation as coevolutionary competition between site and bond percolation*, Physical Review Letters, Vol. 110, Issue 10, Mar 2013

B. M. Althouse, O. Patterson-Lomba, G. M. Goerg, L. Hébert-Dufresne, *The Timing and Targeting of Treatment in Influenza Pandemics Influences the Emergence of Resistance in Structured Populations*, PLoS Computational Biology, 9(2): e1002912. Mar 2013.

B. M. Althouse, J. Lessler, A.A. Sall, M. Diallo, K.A. Hanley, D.M. Watts, S. C. Weaver, D.A.T. Cummings, *Synchrony of Sylvatic Dengue Isolations: A Multi-host, Multi-vector SIR Model of Dengue Virus Transmission in Senegal*, PLoS Neglected Tropical Diseases, 6(11): e1928, Nov 2012

J. W. Ayers, B. M. Althouse, J.P. Allem, M. A. Childers, W. Zafar, C. Latkin, K. M. Ribisl, J. S. Brownstein, *Novel Surveillance of Psychological Distress during the Great Recession*, J of Affective Disorders, Vol. 142, Issues 1-3, (323-330), Dec 2012

J. W. Ayers, B. M. Althouse, J.P. Allem, D. E. Ford, K. M. Ribisl, J. E. Cohen, *A Novel Evaluation of World No Tobacco Day in Latin America*, J Internet Med Research 14(3):e77, May 2012

Media coverage: Los Angeles Times, Huffington Post, Baltimore Sun, India.com Health, Yahoo! Philippines News

B. M. Althouse, Y.Y. Ng, D.A.T. Cummings, *Prediction of Dengue Incidence using Search Query Surveillance*, PLoS Neglected Tropical Diseases 5(8): e1258, Aug. 2011

B.M. Althouse, T. Bergstrom, and C.T. Bergstrom, *A Public Choice Framework for Controlling Transmissible and Evolving Diseases*, Proceedings of the National Academy of Sciences of the United States of America, 107: 1696-1701, Jan. 2010

B.M. Althouse, J.D. West, T. Bergstrom, and C.T. Bergstrom, *Differences in Impact Factor Across Fields and Over Time*, Journal of the American Society for Information Science and Technology. Vol. 60, No.1, (27-34), Jan. 2009

#### MANUSCRIPTS

J. W. Ayers, B. M. Althouse, M. Dredze, E. C. Leas, S. M. Noar, *The Charlie Sheen effect: News and Internet searches for HIV Prevention*, submitted

B. M. Althouse\*, S. V. Scarpino\*, K. Rubin, S. Glazer, *The hidden costs of pertussis infection in the United States of America*, submitted, \*These authors contributed equally

H. E. Clapham, I. Rodriguez- Barraquer, A. S. Azman, B. M. Althouse, H. Salje, S. Kalayanarooj, R. V. Gibbons, R. G. Jarman, A. Nisalak, B. Thaisomboonsuk, S. Nimmannitya, I.-K. Yoon, A. Rothman, D. A.T. Cummings, *Serotype specific dynamics of neutralizing antibody responses during and after symptomatic primary and post-primary dengue infection*, submitted

K.J. Margevicius, N. Generous, E. Abeyta, B.M. Althouse, H. Burkom, L. Castro, A. Daughton, S.Y. Del Valle, G. Fairchild, J.M. Hyman, R. Kiang, A.P. Morse, C.M. Pancerella, R. Priedhorsky, L. Pullum, A. Ramanathan, J. Schlegelmilch, A. Scott, K.J. Taylor-McCabe, A. Vespignani, A. Deshpande, *Towards a standardized framework for describing epidemiological models: characterizing models in*

*an operational context, submitted*

B. M. Althouse, M. Guerbois, D. A. T. Cummings, O. M. Diop, O. Faye, A. Faye, D. Diallo, B. D. Sadio, A. Sow, O. Faye, A. A. Sall, M. Diallo, B. Benefit, E. Simons, D. M. Watts, S. C. Weaver, K. A. Hanley, *Monkey in the middle: monkeys serve as amplification hosts but not reservoir hosts of sylvatic chikungunya virus, submitted*

H. E. Clapham, I. Rodriguez-Barraquer, A. S. Azman, B. M. Althouse, H. Salje, R. V. Gibbons, A. Rothman, R. G. Jarman, A. Nisalak, B. Thaisomboonsuk, S. Nimmannitya, D. W. Vaughn, S. Green, I-K. Yoon, D. A. T. Cummings, *Dengue neutralizing antibody dynamics in children after symptomatic primary and post-primary dengue infections, submitted*

J. W. Ayers, J. L. Westmaas, E. C. Leas, A. Benton, A. Y. Chen, M. Dredze, B. M. Althouse, *Leveraging Big Data to Improve Health Awareness Campaigns: A Novel Evaluation of the Great American Smokeout, submitted*

M. C. Fitzpatrick, N. S. Wenzel, S. V. Scarpino, B. M. Althouse, K. E. Atkins, A. P. Galvani, J. P. Townsend, *Cost-effectiveness of a next-generation pertussis vaccine, submitted*

B. M. Althouse, M. Salathé, M. Lipsitch, C. T. Bergstrom, J. D. West, *Heterogeneous vaccination coverage and measles transmission dynamics, in preparation*

G. M. Goerg, O. Patterson-Lomba, L. Hébert-Dufresne, B. M. Althouse, *Escaping the poverty trap: modeling the interplay between economic growth and the ecology of infectious disease, in preparation*

Media coverage: Physics arXiv blog, slashdot.org

B. M. Althouse, N. Generous, *Prediction and Estimation of Lyme Disease Incidence using Search Query Surveillance, in preparation*

S. Chadsuthi, B. M. Althouse, S. Iamsirithaworn, W. Triampo, D.A.T. Cummings, *Travel distance and human movement predict paths of emergence and spatial spread of Chikungunya in Thailand, in preparation*

J. Nahum, J. West, B.M. Althouse, L. Zaman, C. Ofria, B. Kerr. *Improved adaptation in exogenously and endogenously changing environments, in preparation*

B. M. Althouse, J. Lessler, N. G. Riech, D.A.T. Cummings, *Heterogeneous transmission in homogenous populations: over-dispersion arises endogenously from competitive interactions between transmitters, in preparation*

POPULAR WRITING B.M. Althouse, *A safer world through disease mathematics*, Science in a Complex World Series, Santa Fe New Mexican, September 7, 2014

WORKSHOPS & WORKING GROUPS Santa Fe Institute Working Group, *Next generation surveillance for the next pandemic*. Co-Organizer (May, 2014).

Santa Fe Institute Workshop, *From Co-Infection to Cultural Dissonance: New Challenges for Biological and Cultural Evolution*. Lead Organizer (September–October 2013).

INVITED PRESENTATIONS *Asymptomatic Transmission, the Resurgence of Bordetella pertussis and an Option for Reducing Rising Whooping Cough Incidence*, Public Health Modeling Seminar, Yale University, New Haven, CT, March 6, 2015

*Superspreaders, Asymptomatic Transmitters, and Pondering the Fundamentals of Disease Transmission,*

Institute for Disease Modeling, Bellevue, WA, December 8, 2014

*Shifts in Medical Diagnostic Practice Revealed by Diagnosis Networks*, Dynamics Of and On Networks, Santa Fe Institute Workshop, December 3, 2014

*Epidemiological Consequences of An Ineffective Bordetella Pertussis Vaccine and an Option for Reducing Rising Whooping Cough Incidence*, INFORMS Annual Meeting 2014, San Francisco, CA, November 12, 2014

*Novel Data Sources and the Prediction of Dengue*, Integrating Prediction And Forecasting Models For Decision-Making: Dengue Epidemic Prediction, Convened by the White House Office of Science and Technology Policy, September 15th, 2014

*Why do vaccine-preventable diseases persist in highly vaccinated populations?*, Annual Science Board Symposium and Meeting, Santa Fe Institute, Santa Fe, NM, May 2nd, 2014.

*Infectious Disease Dynamics: Tracking and Understanding the Diseases that Kill Us*, Northern New Mexico College, March 28th, 2014.

*Competition between infectors leads to heterogeneous transmission patterns in homogeneous populations*, Los Alamos National Labs, Center for Nonlinear Studies, October 31st, 2013.

*Mechanistic Modeling of Sylvatic Arboviruses in Senegal: Understanding the Fevers in the Forest*, Department of Biology Seminar Series, New Mexico State University, October 3rd, 2013.

*Competition between infectors leads to heterogeneous transmission patterns in homogeneous populations*, Georgetown University, Washington, D.C., February 19th, 2013.

*Competition between infectors leads to heterogeneous transmission patterns in homogeneous populations*, Santa Fe Institute, Santa Fe, NM, January 31st, 2013.

GENERAL PUBLIC  
PRESENTATIONS

*Why do vaccine-preventable diseases still plague us?*, Los Alamos Rotary Club, April 14, 2015.

Science on Screen Lecture: *Panic in the Streets*, Center for Contemporary Arts, Santa Fe, NM, March 31st, 2014.

ABSTRACTS

B. M. Althouse, S. V. Scarpino, *Asymptomatic transmission and the resurgence of Bordetella pertussis*, Epidemics 5, Dec. 1-Dec. 4, 2015, Clearwater Beach, FL

L. Hébert-Dufresne, B.M. Althouse, *Complex dynamics of synergistic coinfections on realistically clustered networks*, Epidemics 5, Dec. 1-Dec. 4, 2015, Clearwater Beach, FL

B.M. Althouse, L. Hébert-Dufresne, *Epidemic Cycles Driven by Host Behaviour*, NetSci 2015, June, 2015, Zaragoza, Spain

B.M. Althouse, S.V. Scarpino, *Enhancing disease surveillance with novel data streams*, Oral Presentation, Digital Disease Detection, May 21-22, 2015, Florence, Italy

B.M. Althouse, L. Hébert-Dufresne, *Epidemic Cycles Driven by Host Behaviour*, Oral Presentation, NetSci-x, January, 2015, Rio De Janeiro, Brazil

B. M. Althouse, S. V. Scarpino, *Vaccine induced selection mimics waning immunity in Pertussis*, Oral Presentation, European Society for Pediatric Infectious Diseases, May 6-10, 2014, Dublin, Ireland.

B. M. Althouse, O. Patterson-Lomba, G. M. Goerg, L. Hbert-Dufresne, *The Timing and Targeting of Treatment in Influenza Pandemics Influences the Emergence of Resistance in Structured Populations*, *Epidemics* 4, Nov. 19th-22nd, 2013, Amsterdam, The Netherlands.

B. M. Althouse, A. P. Durbin, K. A. Hanley, S. B. Halstead, S. C. Weaver, D. A. T. Cummings *Viral Kinetics of Primary Dengue Virus Infection in Non-Human Primates: A Systematic Review and Individual Pooled Analysis*, American Society of Tropical Medicine and Hygiene 62nd Annual Meeting, November 13-17, 2012, Washington D.C.

B. M. Althouse, M. Guerbois, A. A. Sall, M. Diallo, D. Diallo, O. Diop, B. Benefit, E. Simons, D. M. Watts, S. C. Weaver, K. A. Hanley, D. A. T. Cummings *Age-Stratified Serological Survey of Sylvatic Chikungunya Virus in Nonhuman Primates in Senegal*, Oral Presentation, American Society of Tropical Medicine and Hygiene 62nd Annual Meeting, November 13-17, 2012, Washington D.C.

B. M. Althouse, D. L. Smith, R. C. Reiner Jr, C. M. Barker, D. A. T. Cummings, *Modeling the Ecology of Generalist Pathogens in Multiple Mosquito Vectors*, American Society of Tropical Medicine and Hygiene 61st Annual Meeting, November 11-15, 2012, Atlanta, GA.

C. L. Jo, K. M. Ribisl, B. M. Althouse, J. W. Ayers, S. Emery, *Search Queries for Non-cigarette Tobacco Product Alternatives Post-2009 Federal Tax Increase*, National Conference on Tobacco or Health, August 15-17, 2012, Kansas City, MO.

B. M. Althouse, Y.Y. Ng, D.A.T. Cummings, *Prediction of Dengue Incidence using Search Query Surveillance*, Oral Presentation, American Society of Tropical Medicine and Hygiene 60th Annual Meeting, December 4-8, 2011, Philadelphia, PA.

A. Azman, H. Salje, B. Althouse, I. Rodriguez-Barraquer, T. P. Endy, A. Nisalak, R. Jarman, R. Gibbons, D.A.T. Cummings, *Longitudinal Characterization of Antibody Response to Dengue Virus in Bangkok Thailand*, American Society of Tropical Medicine and Hygiene 60th Annual Meeting, December 4-8, 2011, Philadelphia, PA.

B. M. Althouse, J. Lessler, N.G. Riech, D.A.T. Cummings, *Heterogeneous transmission patterns in homogeneous populations*, *Epidemics* 3, Nov. 29th-Dec. 2nd, 2011, Boston, MA.

S. Chadsuthi, B. Althouse, S. Iamsirithaworn, W. Triampo, D.A.T. Cummings, *Climate, land use and travel times predict the spatial advance of cases of Chikungunya during an outbreak in southern Thailand*, *Epidemics* 3, Nov. 29th-Dec. 2nd, 2011, Boston, MA.

B. M. Althouse, A. Sall, K. Hanley, M. Diallo, D. Watts, S. Weaver, D. A. T. Cummings, *A Multi-host, multi-vector SIR model of Dengue 2 virus in Senegal*, Oral Presentation, American Society of Tropical Medicine and Hygiene 59th Annual Meeting, November 3-7, 2010, Atlanta, GA.

B. Althouse, A. Sall, M. Diallo, S. Weaver, D. Watts, K. Hanley, D.A.T. Cummings, *A Multi-host, Multi-vector SIR Model of Dengue Virus Transmission in Senegal*, MIDAS Network Meeting, Pittsburgh Supercomputing Center, October 7-8, 2010

J. Nahum, B.M. Althouse, J.D. West, C. Ofria, B. Kerr, *Traversing Fitness Landscapes by Changing Environments*, Gordon Research Conference (Microbial Population Biology) Proctor Academy, NH, (July 20-24, 2009), *Winner: Best Poster Award*

B.M. Althouse, J.D. West, and C.T. Bergstrom, *A Novel Method for Ranking the Quality of Cardiology Literature*, American College of Cardiology Scientific Sessions, March 2009, Orlando, FL.

B.M. Althouse, J.D. West, T. Bergstrom, and C.T. Bergstrom, *Differences in Impact Factor Across Fields*



*and Over Time*, Undergraduate Research Symposium, University of Washington, May 16, 2008

B. M. Althouse, *Directed Evolution of Human Apolipoprotein A-I Milano Protein and Expression in Escherichia coli*, Transcatheter Therapeutics (TCT), October 2007, Washington, D.C.

J.D. West, M. Rosvall, B.M. Althouse, C.T. Bergstrom, *Ranking and Mapping Scholarly Literature*, Gordon Research Conference (Microbial Population Biology), July 22-27, 2007, Proctor Academy, NH

PROFESSIONAL  
ACTIVITIES &  
SERVICE

Participant, *Integrating Forecasting Models for Decision-making: A National Strategy*, White House Office of Science and Technology Policy and the federal Pandemic Prediction and Forecasting Science and Technology Working Group, August 2015

Chair, Colloquium Committee, Santa Fe Institute

Topic Editor: Frontiers in Public Health, Infectious Disease Section, *Advances in Information Science for Disease Surveillance*

Reviewer for:

- American Journal of Epidemiology,
- American Journal of Public Health,
- BMC Infectious Diseases,
- BMC Ophthalmology,
- BMC Public Health,
- BMJ Open,
- Bulletin of Mathematical Biology,
- Bulletin of the World Health Organization,
- Computational and Mathematical Methods in Medicine,
- Emerging Infectious Diseases,
- Environmental Health Insights,
- Environmental Health Perspectives,
- Harvard Review of Psychiatry,
- Insects,
- International Journal of Environmental Research and Public Health,
- Journal of Infection in Developing Countries,
- Journal of the Royal Society Interface,
- Journal of Studies on Alcohol and Drugs,
- Journal of Theoretical Biology
- The Lancet,
- The Lancet Global Health,
- The Lancet Infectious Diseases,
- PLoS Computational Biology
- PLoS Neglected Tropical Diseases,
- PLoS One,
- Proceedings of the Royal Society B,
- Scientometrics,
- Social Science & Medicine,
- Vaccine.

*Ad hoc* Grant Reviewer: National Science Foundation, Decision, Risk, and Management Sciences Program

Active member: American Society of Tropical Medicine and Hygiene.

Johns Hopkins Bloomberg School of Public Health Student Assembly:

- Epidemiology Departmental Student Representative Student Assembly JHSPH (2012-2013);
- Elected Treasurer Student Assembly JHSPH, 2011-2012 (managed a team of 5 people and a budget of \$120,000);
- Elected Member-at-large Student Assembly JHSPH (2010-2011).

Student Leader, JHSPH Modeling of Spatial and Temporal Disease Epidemiology Forum (MOST-DEF) Speaker Series, (2011-2012, 2012-2013).

Co-developer, Eigenfactor ([eigenfactor.org](http://eigenfactor.org)): a free online tool for researchers, librarians, editors and administrators to assess the quality of scientific literature.

Founder: Directing Medicine L.L.C.: Our group of computer scientists, statisticians, and epidemiologists advise health advocacy organizations on modern approaches for population health promotion using technologies we have exclusively developed in the private sector. As a group we focus on high risk, high reward projects that would not be considered by conservative public health funding organizations.

#### TEACHING & MENTORING

Lecturer, University of Washington, Info 572: *Introduction to Data Science*, Autumn 2015  
 – Developed a full curriculum for a new course.

Undergraduate Mentoring:

- Haedi DeAngelis, Trinity College, Deerfield, IL
- Cody O’Ferrall, St. John’s College, Santa Fe, MN

Post-graduate Mentoring:

- Chana Greene, US Air Force

Teaching Assistant:

- Spring 2010, 2011: 340.677, *Infectious Disease Dynamics: Theoretical And Computational Approaches*;
- Summer 2011: 140.611-2, *Graduate Summer Institute of Epidemiology and Biostatistics: Statistical Reasoning in Public Health I & II*;
- Winter 2012: 340.609, *Concepts and Methods in Infectious Disease Epidemiology*;
- Spring (3rd term) 2013: 140.655, *Analysis Of Longitudinal Data*;
- Spring (4th term) 2013: 140.656, *Multilevel Statistical Models In Public Health*.

Instructor, Complex Systems Summer School, Santa Fe Institute, Santa Fe, NM, 2014

Short course in Search Query Surveillance, UNC Chapel Hill, Jan. 2012; University of Illinois, Chicago, Oct. 2012.

#### REFERENCES

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