

G. Brooke Anderson

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Current position

Johns Hopkins Bloomberg School of Public Health, Postdoctoral Researcher, 2011–Present.

Advised by Roger D. Peng, Department of Biostatistics

Environmental epidemiology investigating how climate (heat waves, hurricanes) and air pollution affect human health.

Education

Yale School of Forestry & Environmental Studies, Postdoctoral Researcher, 2010–2011.

Advised by Michelle L. Bell, part time position (50%).

Yale University, Ph.D. in Environmental Engineering, 2010.

Dissertation: Weather-related mortality: How heat, cold, and heatwaves affect mortality in the United States.

Committee: Michelle Bell (advisor), Menachem Elimelech, Jordan Peccia, and Shakoor Hajat (external reader).

Yale University, M.Phil. in Environmental Engineering, 2006.

North Carolina State University, B.S. in Chemical Engineering, 2004.

North Carolina State University, B.A. in French Language and Literature, 2002.

Peer-reviewed Publications

First author

1. G. Brooke Anderson, Francesca Dominici, Yun Wang, Meredith McCormack, Michelle L. Bell, and Roger D. Peng. "Heat-related emergency hospitalizations for respiratory diseases in the Medicare population." Under review.
2. G. Brooke Anderson, Michelle L. Bell, and Roger D. Peng. "Methods to calculate the heat index as an exposure metric in environmental health research." Under review.
3. G. Brooke Anderson, Jenna R. Krall, Roger D. Peng, and Michelle L. Bell. 2012. "Is the relation between ozone and mortality confounded by chemical components of particulate matter? Analysis of 7 components in 57 United States communities." *American Journal of Epidemiology*. 176(8):726-732.
4. G. Brooke Anderson and Michelle L. Bell. 2012. "Lights out: Impact of the August 2003 power outage on mortality in New York, NY." *Epidemiology*. 23(2):189-193.
5. G. Brooke Anderson and Michelle L. Bell. 2011. "Heatwaves in the United States: Mortality risk during heatwaves and effect modification by heatwave characteristics in 43 US communities." *Environmental Health Perspectives*. 119(2):210-218.

- Finalist, Reuel A. Stallones Student Prize Paper
 - National Institute of Environmental Health Sciences Extramural Paper of the Month
6. G. Brooke Anderson and Michelle L. Bell. 2010. "Does one size fit all? The suitability of standard ozone exposure metric conversion ratios and implications for epidemiology." *Journal of Exposure Science and Environmental Epidemiology*. 20:2-11.
 7. G. Brooke Anderson and Michelle L. Bell. 2009. "Weather-related mortality: How heat, cold, and heat waves affect mortality in the United States." *Epidemiology*. 20(2):205-213.
 - Runner-up, Kenneth Rothman Epidemiology Prize
 - National Institute of Environmental Health Sciences Extramural Paper of the Month

Contributing author

1. Jenna R. Krall, Michelle L. Bell, G. Brooke Anderson, Francesca Dominici and Roger D. Peng. "Mortality effects of particulate matter constituents in a national study of U.S. urban communities." Under review.
2. Jiyoung Son, Jong-Tae Lee, G. Brooke Anderson, and Michelle L. Bell. 2012. "The impact of heat waves on mortality in 7 major cities in Korea." *Environmental Health Perspectives*. 120(4): 566-571.
3. Jiyoung Son, Jong-Tae Lee, G. Brooke Anderson, and Michelle L. Bell. 2011. "Vulnerability to temperature-related mortality in Seoul, Korea." *Environmental Research Letters*. 6: doi:10.1088/1748-9326/6/3/034027.

Software

1. weathermetrics: An R package with functions to convert between weather metrics. Publicly and freely available at: <http://cran.r-project.org/web/packages/weathermetrics/index.html>
2. bespoke: An R package to generate web-based homework and problem sets. In development. More information available at www.biostat.jhsph.edu/~bwilliam/Software.html#bespoke.
3. Web application with practice problems for *Statistical Reasoning in Public Health I*, Department of Biostatistics, Johns Hopkins School of Public Health, Spring 2012. Created using my "bespoke" R package. Collaboration with John McGready, Aaron Fisher, and Roger Peng. More information available at www.biostat.jhsph.edu/~bwilliam/Bespoke.html.
4. Web application with homework and practice problems for *Methods in Biostatistics III*, Department of Biostatistics, Johns Hopkins School of Public Health, Spring 2012. Created using my "bespoke" R package. Collaboration with Roger Peng. More information available at www.biostat.jhsph.edu/~bwilliam/Bespoke.html.

Funding

US Environmental Protection Agency STAR Graduate Fellow, 2007–2010.

National Science Foundation Graduate Fellow, 2004–2007.

North Carolina State University Park Scholar, 1999–2003.

Honors and awards

Reuel A. Stallones Student Prize Paper, Finalist, 2011

Given for outstanding contributions to epidemiological methods by a student of epidemiology.

Kenneth Rothman Epidemiology Prize, Runner-up, 2010

Given for the best paper of the previous year in the journal *Epidemiology*.

National Institute of Environmental Health Sciences Extramural Paper of the Month

Lead author, December 2010.

International Society for Environmental Epidemiology Student Poster Competition

One of three winners, 2010.

National Institute of Environmental Health Sciences Extramural Paper of the Month

Lead author, April 2009.

Switzer Foundation Fellowship, Finalist, 2007.

Student Poster and Paper Competition, Air & Waste Management Association

Second Place, 2007.

North Carolina State University College of Engineering's Senior Award for Humanities, 2004.

Phi Beta Kappa and Tau Beta Pi, Member of North Carolina State University chapters

National liberal arts and engineering honor societies.

Conference & Seminar Presentations

Presenter is indicated by an asterisk.

Invited presentations

G. Brooke Anderson*. *Disasters and health: Case studies and opportunities for collaborative research between epidemiology and environmental engineering*. M. Gordon Wolman Seminar Series, Johns Hopkins University Department of Geography and Environmental Engineering, Baltimore, MD, September 2012.

G. Brooke Anderson* and Michelle L. Bell. *Mortality risk during heatwaves and effect modification by heatwave characteristics in 43 US communities*. American Association of Geographers Annual Meeting, New York, NY, February 2012.

Jiyoung Son*, Jong-Tae Lee, **G. Brooke Anderson**, and Michelle L. Bell. *The impact of heat waves on mortality in 7 major cities in Korea*. American Association of Geographers Annual Meeting, New York, NY, February 2012.

G. Brooke Anderson* and Michelle L. Bell. *Human mortality during extreme environmental events: Studies of heatwaves and of the 2003 blackout*. Columbia University, Climate and Health Working Group, November 2011.

G. Brooke Anderson* and Michelle L. Bell. *Investigating heatwave effects through multi-level modeling: The roles of heatwave variability and heatwave characteristics*. 23rd Conference of the International Society for Environmental Epidemiology, Barcelona, Spain, September 2011.

G. Brooke Anderson* and Michelle L. Bell.* *Comparing temperature-mortality effects in different communities: Challenges and approaches*. Workshop: Methods for investigating associations of weather and climate with health, 23rd Conference of the International Society for Environmental Epidemiology, Barcelona, Spain, September 2011.

Other oral presentations

G. Brooke Anderson^{*}, Jenna R. Krall, Roger D. Peng, and Michelle L. Bell. *Is the ozone-mortality relationship confounded by chemical components of particulate matter? Analysis of 7 components in 57 US communities.* International Society for Environmental Epidemiology, Columbia, SC, August 2012.

Jiyoung Son^{*}, Jong-Tae Lee, **G. Brooke Anderson**, and Michelle L. Bell. *The impact of heat waves on mortality in 7 major cities in Korea.* International Society for Environmental Epidemiology, Columbia, SC, August 2012.

G. Brooke Anderson^{*} and Roger D. Peng. *bespoke: A package to custom-make online web applications of statistics homework and practice problems.* The 8th International R Users Meeting, Nashville, TN, June 2012.

G. Brooke Anderson and Michelle L. Bell^{*}. *The mortality of a major power outage: Case study of the 2003 blackout in New York, New York, USA.* American Thoracic Society International Conference, San Francisco, CA, May 2012.

G. Brooke Anderson^{*} and Michelle L. Bell. *Lights out: Impact of the August 2003 power outage on mortality in New York, NY.* 23rd Conference of the International Society for Environmental Epidemiology, Barcelona, Spain, September 2011.

G. Brooke Anderson^{*} and Michelle L. Bell. *Influence of heatwave intensity, duration, and timing in season on heatwave mortality effects in the United States.* 2010 Joint International Society for Environmental Epidemiology-International Society of Exposure Science Conference, Seoul, Korea, August 2010.

G. Brooke Anderson^{*} and Michelle L. Bell. *Extreme temperature effects: A study of the effects of heat, cold, and heat waves on human mortality in 107 U.S. cities.* 2009 Langer Symposium, Yale University, New Haven, CT, December 2009.

G. Brooke Anderson^{*} and Michelle L. Bell. *A study of heat-wave related mortality in 107 United States communities.* 2009 International Society for Environmental Epidemiology Conference, Dublin, Ireland, August 2009.

Poster presentations

Jenna Krall^{*}, **G. Brooke Anderson**, Francesca Dominici, Michelle Bell, and Roger Peng. *Mortality effects of particulate matter constituents in a national study of US urban communities.* International Society for Environmental Epidemiology, Columbia, SC, August 2012.

Jiyoung Son^{*}, Jong-Tae Lee, **G. Brooke Anderson**, and Michelle L. Bell. *The impact of heat waves on mortality in 7 major cities in Korea.* 21st Annual Meeting of the International Society of Exposure Science, Baltimore, MD, October 2011.

Jiyoung Son, Jong-Tae Lee, **G. Brooke Anderson**, and Michelle L. Bell.^{*} *Vulnerability to temperature-related mortality in Seoul, Korea.* 23rd Conference of the International Society for Environmental Epidemiology, Barcelona, Spain, September 2011.

G. Brooke Anderson^{*} and Michelle L. Bell. *Lights out: Impact of the August 2003 power outage on mortality in New York, NY.* 3rd North American Congress of Epidemiology, Montreal, Canada, June 2011.

G. Brooke Anderson^{*} and Michelle L. Bell. *Heatwaves and mortality in New York, NY.* 2010 Joint International Society for Environmental Epidemiology-International Society of Exposure Science Conference, Seoul, Korea, August 2010.

G. Brooke Anderson^{*} and Michelle L. Bell. *Heatwaves and mortality in New York, NY.* 2010 Society for Epidemiologic Research Annual Meeting, Seattle, WA, June 2010.

G. Brooke Anderson^{*} and Michelle L. Bell. *Does one size fit all? The suitability of standard ozone*

exposure metric ratios and implications for epidemiology. 2009 International Society for Environmental Epidemiology Conference, Dublin, Ireland, August 2009.

G. Brooke Anderson* and Michelle L. Bell. *How heat waves affect mortality in the United States*. 101st Annual Air and Waste Management Association Conference, Portland, OR, June 2008.

G. Brooke Anderson and Michelle L. Bell*. *Extreme temperature effects: A study of the effects of heat, cold, and heat waves on human mortality in 107 U.S. cities*. 2008 Joint International Society for Environmental Epidemiology-International Society of Exposure Science Conference, Los Angeles, CA, October 2008.

G. Brooke Anderson* and Michelle L. Bell. *A national study of weather-related mortality*. 100th Annual Air and Waste Management Association Conference, Pittsburgh, PA, June 2007.

Teaching experience

Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics

Teaching Assistant for *Statistical Methods in Public Health II*, October–December 2012.

Co-creator of practice problem web application for *Statistical Reasoning in Public Health I*, Fall 2012.

Guest lecturer for *Methods in Biostatistics IV*, April 19, 2012.

Co-creator of homework and practice problem web application for *Methods in Biostatistics III*, Spring 2012.

Columbia University, Department of Environmental Health Sciences

Guest lecturer for *Public Health Impacts of Climate Change*, February 23, 2012.

Yale University, School of Forestry & Environmental Studies

Guest lecturer for *The Environment and Human Health*, October 10, 2011.

Professional Service

International Society for Environmental Epidemiology

Session co-chair, *Outdoor air pollution and children's health*, Columbia, SC, August 2012.

George Washington University, School of Public Health and Health Services

Dissertation committee member for Diane Gubernot, Ph.D candidate.

Reviewer for Biostatistics, BMC Medical Research Methodology, BMC Public Health, Climatic Change, Climate Research, Environmental Health Perspectives, Environmental Research, Epidemiology, International Journal of Biometeorology, Journal of Agriculture, Biological, and Ecological Statistics, Nature Climate Change, Remote Sensing, Science of the Total Environment

Laboratory Research Experience

Yale Graduate School of Arts & Sciences, 2004–2005

Nitrogenous disinfection by-products, advised by William A. Mitch.

North Carolina State University, Fall 2003

Solid state polymerization of poly(bisphenol A carbonate), advised by George W. Roberts.

North Carolina State University, Summer 2003

Photocatalysis, advised by David F. Ollis.

L'École Centrale, Summer 2002
Photocatalysis, advised by Pierre Pichat, Écully, France.

International Experience

L'École Supérieure de Chimie Physique Électronique de Lyon, Spring 2004
Study abroad in Chemical Engineering, Villeurbanne, France.

Laboratoire d'Application de la Chimie à l'Environnement, Spring 2004
Photocatalysis design, advised by Jean-Marie Herrmann, Villeurbanne, France.

L'École Centrale, Summer 2002
Photocatalysis research, advised by Pierre Pichat, Écully, France.

United States Embassy, Summer 2001
Science intern, Bern, Switzerland.

Sorbonne, Cours de Civilisation Française, Fall 2000–Spring 2001
Study abroad in French Language and Literature, Paris, France.

L'École Supérieure de Chimie Physique Électronique de Lyon, Summer 2000
Summer program in Chemical Engineering

Skills

Computer skills

Proficient in R, \LaTeX , and Microsoft software (Word, PowerPoint, Excel)

Familiar with SAS, S-Plus, Perl, PHP, JavaScript, and ArcGIS

Language proficiency

English: native

French: fluent

Last updated: December 8, 2012