

Ecology and Evolutionary Biology
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Education

Ph.D. Biology	2005-2009	Penn State University
M.A. Biological Anthropology	2002-2004	Penn State University
B.S. Anthropology-Zoology (honors)	1996-2000	University of Michigan
B.S. Biology	1996-2000	University of Michigan
Postdoctoral Fellowship	2009-2011	Princeton University

Research Interests:

My work focuses on the spread of vaccine preventable human diseases in West African Nations. Specifically, I am interested in both spatial and temporal patterns of measles and meningitis in areas where vaccine coverage is patchy and birth rates are high. My approach incorporates spatial analyses, demographic factors, and seasonal influence to explain outbreak patterns across spatial scales and inform policy strategies.

Publications:

Bharti, N., Djibo, A., Ferrari, M., Grais, R., Tatem, A., McCabe, C., Bjornstad, O., Grenfell, B. (2010) Measles hotspots and epidemiological connectivity in Niger. *Epidemiology and Infection*, accepted.

Bharti, N., Xia, Y., Bjornstand, O., Grenfell, B. (2008) Measles on the edge: coastal heterogeneities and disease modeling. *PloS ONE* 3(4): e1941.
doi:10.1371/journal.pone.0001941

Ferrari, M., Grais, R., **Bharti, N.**, Conlan, A., Bjornstand, O., Wolfson, L., Guerin., P., Djibo, A., Grenfell, B. (2008) The dynamics of measles in sub-Saharan Africa. *Nature* 451, 679-684. doi:10.1038/nature06509

Finkelman, B., Viboud, C., Koelle, K., Ferrari, M., **Bharti, N.**, Grenfell, B. (2007) Global patterns in seasonal activity of influenza A/H3N2, A/H1N1, and B from 1997 to 2005: Viral coexistence and latitudinal gradients. *PloS ONE* 2(12): e1296.
doi:10.1371/journal.pone.0001296

Talks:

Bharti, N., Bjornstad, O., Djibo, A., Broutin, H., Ferrari, M., Grais, R., and Grenfell, B. Spatiotemporal dynamics of meningitis in Niger: seasonality and hotspots. *Epidemics*², Second International Conference for Infectious Disease Dynamics, Athens, Greece, December 2009.

Nita Bharti, Matt Ferrari, Craig McCabe, Andrew Tatem, Rebecca Grais, Ali Djibo, Ottar Bjornstad, and Bryan Grenfell. Ecological drivers of epidemiological dynamics: Measles as a case study. Biology Seminar Series, Hofstra University, Hempstead, New York, October 2008.

Bharti, N., Ferrari, M., McCabe C., Grais, R., Djibo, A., and Grenfell, B. Spatiotemporal dynamics of infectious diseases: Refining our understanding of seasonal drivers of measles in the Sahel. Ecological Society of America, Society for Ecological Restoration joint meeting, Milwaukee, WI, August 2008.

Bharti, N., Xia, Yingcun, Bjornstad, O., Ferrari, M., Grais, R., and Grenfell, B. Demographic and social underpinnings of transmission: Host movement and disease dynamics. Ecological Society of America, Society for Ecological Restoration joint meeting, San Jose, CA, August 2007.

Poster Presentations:

N Bharti, H Broutin, M Miller, M Ferrari, A Tatem, C McCabe, R Grais, A Djibo, B Grenfell. Impact of Population Density and Movement on Meningitis Dynamics in Niger *Meningitis Environmental Risk Information Technologies (MERIT)* 2nd annual meeting, Addis Ababa, Ethiopia, December 2008.

Nita Bharti, Craig McCabe, Rebecca Grais, , Ali Djibo, Ottar Bjornstad, Bryan Grenfell. Measles Detected From Space *Ecology and Evolution of Infectious Diseases* 6th annual meeting, Colorado State University, CO, June 2008.

Sparks, Corey S., Goodwine, Nicole M., **Bharti N.** Spatial and Temporal Dynamics of Respiratory Disease in Orkney, Scotland 1855-1940. *American Association of Physical Anthropologists* meetings, April 2005.

Teaching Experience:

Fall 2005
Introduction to Biology Laboratory Instructor Penn State University

Spring 2005
The Rise of Ancient Civilizations Teaching Assistant Penn State University

Fall 2004
Archaeology of Incas, Aztecs, and Mayas Teaching Assistant Penn State University

Spring 2004
Introduction to Biological Anthropology Teaching Assistant Penn State University

Fall 2003
Introduction to Cultural Anthropology Teaching Assistant Penn State University