

MICHAEL R. REDDY M.P.H.

Dept. of Epidemiology and Public Health
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Education

- 2005-** **Yale University School of Medicine**
Department of Epidemiology and Public Health
Doctoral (Ph.D.) student, Division of Epidemiology of Microbial Diseases
- 1999** **University of California, Berkeley**
School of Public Health
M.P.H., Infectious Diseases
- 1997** **University of Washington, Seattle**
School of Public Health and Community Medicine
B.S., Environmental Health, minor: Political Science.

Research Experience

- 09/05- present** **Rotating Graduate Student, Depts. of Ecology and Evolutionary Biology & Epidemiology and Public Health, Yale University, New Haven, CT**
Employing genetic sequence-based methods to determine the population structure of cryptic West African anopheline vector species, developing a PCR-based assay to identify potential alternative reservoir hosts from bloodmeals taken by *Ixodes scapularis* ticks. Established a sampling scheme for detection of transovarial transmission of LaCrosse virus from native *Ochlerotatus triseriatus* mosquitoes.
- 07/01-08/05** **Staff Research Assistant II, Dept. of Immunology & Infectious Diseases Harvard School of Public Health, Boston, MA**
Conducted research on the seasonal dynamics of *Culex p. pipiens* vector mosquitoes and West Nile virus (WNV) transmission in northeastern North America. Evaluated the efficacy of insecticide-based interventions for the prevention of WNV transmission. Performed genotypic analysis of potential chloroquine and artemisinin treatment failures against *Plasmodium vivax* infection in an Ethiopian cohort.
- 01/00-07/01** **Research Associate, Dept. of Research and Development Virologic, Inc., South San Francisco, CA**
Utilized molecular techniques to conduct research into the phenotypic expression of HIV susceptibility to integrase inhibitors, a novel drug class. Contributed to the development, validation and implementation of high throughput processes and automated systems to support a clinical reference laboratory.

- 8/98 - 2/99 Graduate Student Intern, Center for Vector-Borne Disease Research, University of California, Davis, CA**
Employed RT-PCR methods in the detection of St. Louis encephalitis and western equine encephalomyelitis viruses in laboratory infected mosquitoes. Optimized a RT-PCR assay used to detect viral RNA in the absence of a cold chain for use in field surveillance activities.
- 6/97 - 8/97 Undergraduate Intern, Communicable Disease Epidemiology Section, Washington State Department of Health, Seattle, WA**
Assisted development of an active surveillance program for the prevention of waterborne diseases in local communities in Washington State. Assisted health officers during a Hantavirus epidemiological investigation.
- 6/94 - 8/97 Undergraduate Student Researcher, Department of Radiology University of Washington Medical Center, Seattle, WA**
Researched enzymatic activities of tumor cell lines A549 (human lung adenocarcinoma) and 36B10 (human glioma) grown in high and low glucose media using kinetic assay techniques.
- 6/95 - 9/95 Summer Research Intern, Boston Biomedical Research Institute, Harvard Medical School, Boston, MA**
Researched the role of the protein kinase C pathway in vascular tissue function. Examined dose-response relationship between chemical agonists and force transduction in smooth muscle. Performed microsurgery and tissue preparation for experimental use.

Teaching Experience

- 2006 Teaching Assistant, “Infectious Disease Epidemiology, Prevention, and Control” (EMD 541a) Fall Semester; Prof. Kaveh Khoshnood. Yale University, Dept. of Epidemiology and Public Health**
- 2004-05 Teaching Assistant, “Principles of Public Health Entomology” (ID206cd) Spring Semesters; Prof. Andrew Spielman, Harvard School of Public Health, Boston, MA.**
- 2004-05 Teaching Assistant, “Malaria and Human Affairs” (ID201cd) Spring Semesters; Prof. Andrew Spielman, Harvard School of Public Health, Boston, MA.**
- 2003-04 Teaching Assistant, “Ecology, Epidemiology and Control of Important Parasitic Diseases of Developing Countries” (IMI201a) Fall Semesters; Profs. Dyann F. Wirth, Manoj T. Duraisingh, Ali Sultan. Harvard School of Public Health, Boston, MA**
- 1998-99 Graduate Student Instructor, “Public Health Microbiology Laboratory”;** Summer: Dr. Barbara DesRoches, Fall: Dr. Fenyong Liu. University of California, Berkeley

Research Skills

RNA/DNA extraction, RT-PCR, restriction enzyme digestion, plasmid DNA preparation, subcloning, site-directed mutagenesis, DNA sequencing & editing, viral transfection & infection in mammalian cell lines, routine sampling of *Culex spp.* eggs, larvae & adult mosquitoes, mosquito species identification and dissection, maintenance of multiple mosquito colonies. **Proficient Spanish language (written and verbal) skills.**

Publications

Efficacy of Resmethrin Aerosols Applied from the Road Against the *Culex* vectors of West Nile virus; Reddy MR, Spielman A, Lepore TJ, Henley D, Kiszewski AE, Reiter P; Vectorborne and Zoonotic Diseases. 2006 6: 117-127.

Early Evening Host-Seeking and Oviposition Activity by the *Culex* Vectors of West Nile virus in Northeastern North America; Lepore TJ, Reddy MR, Kiszewski AE, Pollack RJ, Reiter P; Journal of Medical Entomology. 2007 44: 211–214.

Host-seeking by *Culex p. pipiens* following the onset of winter diapause; Reddy MR, Spielman A, Lepore TJ, Kiszewski AE, Pollack RJ, Reiter P; manuscript in preparation, 2007.

Presentations

4th International Congress, Society for Vector Ecology, 2005. “Non-correlation of the Reproductive Activity of the Vectors of West Nile virus and Risk of Human Infection” Michael Reddy¹, Timothy J. Lepore, West Nile virus Project Team¹ Andrew Spielman¹, Paul Reiter²,¹Dept. of Immunology and Infectious Diseases Harvard School of Public Health, Boston MA 02115 ²Centers for Disease Control and Prevention, Division of Vector-borne Infectious Diseases, Fort Collins, CO 80521

16 May 2005, Massachusetts Dept of Public Health, State Laboratory Institute, Epidemiology Section (Invited Oral Presentation) “***Culex pipiens* and Latitude- Implications for the Transmission of West Nile virus in the Northeast**” Michael Reddy, Dept. of Immunology and Infectious Diseases, Harvard School of Public Health, Boston MA 02115

53rd Annual Meeting of the American Society of Tropical Medicine and Hygiene, 2004 #833 Seasonal Dynamics of *Culex pipiens* Mosquitoes and the Transmission of West Nile virus (poster) Michael R. Reddy¹, Timothy J. Lepore,¹ Richard J. Pollack,¹ Andrew Spielman,¹ Paul Reiter² ¹Dept. of Immunology and Infectious Diseases, Harvard School of Public Health, Boston MA 02115, ²Insectes et Maladies Infectieuses, Institut Pasteur, 75724 Paris, France **#2072 Estimation of Longevity of *Culex pipiens* s.l. Mosquitoes** (poster) Ivo M. Foppa¹, Michael Reddy², Andrew Spielman², ¹Arnold School of Public Health, University of South Carolina, Columbia, SC ²Harvard School of Public Health Boston, MA 02115

70th Annual Meeting of The American Mosquito Control Association, 2004
Efficacy of Insecticidal Aerosols Against *Culex* Mosquitoes (Invited speaker)
Michael Reddy Dept. of Immunology and Infectious Diseases, Harvard School of Public Health, Boston MA 02115.

49th Annual Meeting of Northeast Mosquito Control Association, 2003
Efficacy of Insecticidal Aerosols Against *Culex* Mosquitoes (oral presentation) Michael Reddy Dept. of Immunology and Infectious Diseases, Harvard School of Public Health, Boston MA 02115.

35th Annual Meeting of the Society for Vector Ecology, 2003 #6: Efficacy of Vehicle Mounted ULV Applications of Resmethrin Against *Culex* spp. Populations (poster) Michael Reddy,¹ Timothy Lepore,¹ David Henley,² Duane Gubler,³ Andrew Spielman,¹ Paul Reiter,⁴ **#8: Seasonality of Host-seeking and Reproductive Activity of *Culex* vectors of West Nile virus (poster)** Timothy Lepore,¹ Michael Reddy,¹ Richard Pollack,¹ Duane Gubler,³ Andrew Spielman,¹ Paul Reiter,³ ¹Dept. of Immunology and Infectious Diseases, Harvard School of Public Health, Boston MA 02115. ²East Middlesex Mosquito Control Project, Waltham, MA 02452. ³Centers for Disease Control and Prevention, Division of Vectorborne Infectious Diseases, Fort Collins, CO 80521 ⁴Insectes et Maladies Infectieuses, Institut Pasteur, 75724 Paris, France

51st Annual Meeting of American Society of Tropical Medicine and Hygiene, 2002 #1197: Evidence for Vertical Transmission of West Nile Virus to Overwintering *Culex pipiens* Mosquitoes P Reiter, A Spielman, RJ Pollack, S Shah, MR Reddy, TJ Lepore, DJ Gubler; Centers for Disease Control and Prevention (CDC), Division of Vector-Borne Infectious Diseases, Dengue Branch, San Juan, PR, Harvard School of Public Health, Boston MA

41st Annual ICAAC, 2001 #1968: A Rapid, Multi-functional HIV-1 Entry Assay for Measuring Drug Susceptibility, Co-Receptor Tropism, and Antibody Neutralization W Huang, T Wrin, J Yap, S Fransen, J Beauchaine, MR Reddy, EE Paxinos, NT Parkin, JT Whitcomb, CJ Petropoulos; Virologic Inc. 270 E. Grand Ave, South San Francisco, CA 94080

AIDS Vaccine Conference, 2001 #79: A Rapid, Multi-functional HIV-1 Entry Assay for Measuring Neutralizing Antibody, Co-Receptor Tropism, and Drug Susceptibility T Wrin, W Huang, J Yap, S Fransen, J Beauchaine, N Whitehurst, MR Reddy, S Nidtha, EE Paxinos, NT Parkin, JT Whitcomb, CJ Petropoulos; Virologic Inc. 270 E. Grand Ave, South San Francisco, CA 94080

5th International Workshop on Drug Resistance and Treatment Strategies, 2000 #67: Measuring HIV-1 integrase inhibitor susceptibility using a recombinant virus-based, single cycle replication assay GM Heilek-Snyder¹, MR Reddy¹, K Limoli¹, N Parkin¹, CJ Petropoulos¹, M Witmer², SD Young², JS Wai², D Hazuda², ¹Virologic Inc. 270 E. Grand Ave, South San Francisco, CA 94080, ²Dept. of Anti-Viral Research, Merck Research Laboratories, West Point, PA 19486

Experimental Biology 1997

#3017: Activities of Glycolytic Enzymes Depend on Glucose Levels in Culture MR Reddy, RW Wiseman, KA Krohn, V Goyal, SD Freeman, MT Tewson, AM Spence; Departments of Radiology & Neurology, University of Washington, Seattle WA 98195

Awards/Activities

- 2005-present** Big Brother Volunteer, Big Brothers/Big Sisters of Southeastern Connecticut
- 2004** Citation for Commitment and Excellence in Teaching, Harvard School of Public Health
- 1998-1999** M.P.H. Representative, UC-Berkeley SPH Faculty Council
- 1997-1998** Infectious Diseases Program Representative, SPH Graduate Student Assoc.
- 1996-1997** President, Student National Environmental Health Association, UW Chapter
- 1996-1997** Mentor, Student Equity Project. Seattle Public Schools/Seattle Youth Involvement Network
- 1992-1994** Varsity and Freshman Oarsman, University of Washington Crew Team