BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Gyanu Lamichhane	Assistant Professor
eRA COMMONS USER NAME glamich1	

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Wabash College, Indiana, *Magna Cum Laude*	B.A.	1996-99	Chemistry
Johns Hopkins Univ. School of Medicine	Ph.D.	1999-04	Molecular Medicine
Johns Hopkins University, Center for TB Research		2004-05	Post-doctoral training
Graduate Entry Medicine, Oxford University, UK		2005	Medicine

A. PERSONAL STATEMENT

My primary interest lies in understanding exactly how *M. tuberculosis* bacilli grows so that we can develop ways to stop its growth and treat its infection which kills ~9 million people worldwide. I have been pursuing this topic for the last 10 years and identified many genes, proteins and molecules that are required for its survival and growth. Yet more work lies ahead in determining the molecular mechanism for survival and growth of this bacilli. At the present my efforts are focused on understanding the details of peptidoglycan modification of *M. tuberculosis* so that we can target this vital component of the cell wall. With a formal education/training in Chemistry and Molecular & Cellular Biology I intend to use these expertise to understand the molecular mechanism of bacterial survival/growth and translate it to develop new drugs and therapies against this deadly infection.

B. POSITIONS

Assistant Professor, Johns Hopkins School of Medicine	2006-
Instructor of Medicine, Johns Hopkins School of Medicine	2006
Visiting Post-doc fellow: Univ. of Toronto Dept. of Medical Genetics & Microbio	2005-
Post-doctoral fellow, Center for TB Research. Johns Hopkins	2004-05

HONORS

W. Leigh Thompson Excellence in Research Award, Johns Hopkins SOM	2010
Best & Brightest, *Esquire* Magazine	2007
Foulkes Fellowship	2006-09
Young Investigator: The Paul Ehrlich Research Award. Johns Hopkins SOM	2004
Graduate Student Fellowship: Johns Hopkins University School of Medicine	1999-04
Member of Phi Lambda Upsilon: National Chemistry Honors Society	1998
Howell Chemistry Award – Wabash College for Excellence in Chemistry	1998

C. SELECTED PEER REVIEWED PUBLICATIONS

1. **Lamichhane G**, Zignol M, Blades NJ, Geiman DE, Dougherty A, Grosset J, Broman KW, Bishai WR. A postgenomic method for predicting essential genes at subsaturation levels of mutagenesis: application to *M. tuberculosis***.** 2003, *Proc Natl Acad Sci USA*. 100:7213-8
2. Yoder M, **Lamichhane G**, Bishai WR. Cavitary Pulmonary Tuberculosis: The Holey Grail of Disease Transmission. *Current Science*, Vol. 86, 2004, 101-108.

3. Karakousis P., Yoshimatsu T., **Lamichhane G**., Woolwine S. C., Nuermberger E. L., Grosset J., and Bishai, W. R. 2004. Dormancy phenotype displayed by extracellular *M. tuberculosis* within artificial granulomas in mice. 2004 *Journal of Experimental Medicine.* 200, 1-12.
4. **Lamichhane G**., Tyagi S., and Bishai W. R.. 2005. Designer arrays for defined mutant analysis to detect genes essential for survival of *Mycobacterium tuberculosis* in mouse lungs. *Infect Immun*. Vol 73, 2533-40.
5. Jain S. K., Paul-Satyaseela M., **Lamichhane** G., Kim K. S., & Bishai W. R. 2006. *Mycobacterium tuberculosis* invasion and traversal across an *in vitro* human blood brain barrier as a pathogenic mechanism for CNS tuberculosis. *J Infect Dis*. 193, 1287-95.
6. **Lamichhane G**., Tirumalai R., Morrison N. E., Woolwine S. C., Tyagi S., Kandavelou K., and Bishai W. R., 2006. Inactivation of *mpa* leads to growth attenuation and provides protection against virulent *M. tuberculosis. J Infect Dis*. 194, 1233-1240.
7. **Lamichhane G**., and Bishai W. R. Seeking the Survivasome of *Mycobacterium tuberculosis*. 2007. *Nature Medicine*. Vol 13. No. 3. 280-282.
8. Jain S. K., S. Moises Hernandez-Abanto, Qi-Jian Cheng, Prabhpreet Singh, Lan H. Ly, Lee G. Klinkenberg, Norman E. Morrison, Paul J. Converse, Eric Nuermberger, Jacques Grosset, David N. McMurray, Petros Karakousis, **Gyanu Lamichhane**, and W R. Bishai. 'Accelerated detection of *M tuberculosis* genes essential for bacterial survival in guinea pigs compared with mice. 2007. *J Infect Dis*. 195, 1634-42.
9. Jain S. K., **Lamichhane G**., Nimmagadda S., Pomper M. G., and Bishai W. R. Antibiotic Treatment of Tuberculosis: Old Problems, New Solutions. **2008**. *Microbe.*Vol 3, 285-292
10. Be NA, **Lamichhane** G, Grosset J, Tyagi S, Cheng QJ, Kim KS, Bishai WR, Jain SK. Murine model to study the invasion and survival of *M. tuberculosis* in the central nervous system. 2008 *J Infect Dis*. 198:1520-8
11. Alahari A, Alibaud L, Trivelli X, Gupta R, **Lamichhane** G, Reynolds RC, Bishai WR, Guerardel Y, Kremer L. Mycolic acid methyltransferase, MmaA4, is necessary for thiacetazone susceptibility in Mycobacterium tuberculosis. 2009. Mol Microbiol. 71(5):1263-77
12. Converse PJ, Karakousis PC, Klinkenberg LG, Kesavan AK, Ly LH, Allen SS, Grosset JH, Jain SK, **Lamichhane** G, Manabe YC, McMurray DN, Nuermberger EL, Bishai WR. Role of the dosR-dosS two-component regulatory system in *M. tuberculosis* virulence in animal models. 2009 *Infect Immun*. 77(3):1230-7
13. Agarwal N, **Lamichhane G,** Gupta R, Nolan S, Bishai W. R. cAMP intoxication of macrophages by a *M. tuberculosis* adenylate cyclase. 2009. *Nature*. 460, 98-102.
14. Davis SL, Be NA, **Lamichhane G**, Nimmagadda S, Pomper MG, Bishai WR, Jain SK. Bacterial thymidine kinase as a non-invasive imaging reporter for *M. tuberculosis* in live animals. 2009. *PLoS One,* e6297.
15. Dutta NK, Mehra S, Didier PJ, Roy CJ, Doyle LA, Alvarez X, Ratterree M, Be NA, **Lamichhane G,** Jain SK, Lacey MR, Lackner AA, Kaushal D. *M. tb* genes required for growth in primates. 2010. *J Infect. Dis.*
16. Olaleye O, Raghunand TR, Bhat S, He J, Tyagi S, **Lamichhane G**, Gu P, Zhou J, Zhang Y, Grosset J, Bishai WR, Liu JO. Methionine Aminopeptidases from M. tuberculosis as novel antimycobacterial targets. 2010. *Chem Biol.* 17, 86-97.
17. Gupta R, Lavollay M, Mainardi J, Arthur M, Bishai WR, **Lamichhane G**. The *Mycobacterium tuberculosis* gene, ldt_{Mt2}, encodes a non-classical transpeptidase required for virulence and resistance to amoxicillin. 2010. *Nature Medicine*. 16, 466-9.
18. Converse PJ, Eisenach KD, Theus SA, Nuermberger EL, Tyagi S, Ly LH, Geiman DE, Guo H, Nolan ST, Akar NC, Klinkenberg LG, Gupta R, Lun S, Karakousis PC, **Lamichhane G**, McMurray DN, Grosset JH, Bishai WR. The impact of mouse passaging of *Mtb* strains prior to virulence testing in mouse and guinea pig aerosol models. 2010. *PLoS One,* 5, e10289.