

## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2.

Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Gaddy, Jennifer A.	POSITION TITLE Research Instructor		
eRA COMMONS USER NAME GADDYJA			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing,</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Indiana University East, Richmond, IN	A.S.	2001	Chemistry
Indiana University East, Richmond, IN	B.S.	2003	Biology
Miami University, Oxford, OH	Ph.D.	2010	Microbiology
Vanderbilt University, Nashville, TN	Post-doc	2010-2013	Host-pathogen interactions

### A. Personal Statement

I am an expert electron microscopist whose research interests focus on host-pathogen interactions and ultrastructural analyses of cellular features. My work utilizes both scanning and transmission electron microscopy as well as immune-electron microscopy techniques and confocal laser scanning microscopy. I am currently independently funded to perform research that focuses on the role of metal homeostasis in the regulation of the type IV secretion apparatus encoded by the *cag* pathogenicity island in *Helicobacter pylori* and its contribution to the progression of gastric disease.

### B. Positions and Honors.

#### Positions and Employment

Research Instructor, Department of Medicine- Division of Infectious Diseases, Vanderbilt University, July 2013 to present.

Post-doctoral Research Fellow, Department of Medicine- Division of Infectious Diseases, Vanderbilt University, Sept. 2010 to June 2013.

Graduate Research Assistant, Department of Microbiology, Miami University, Fall 2004 to Sept 2010.

Undergraduate Research Assistant, Department of Natural Science and Mathematics, Indiana University East, April 2003 to December 2003.

Undergraduate Summer Research Scholar, Department of Natural Science and Mathematics, Indiana University East, May 2003 to August 2003.

#### Honors

Dissertation Fellowship Award, Miami University, Fall 2008.

Susan Rockwood Award for Excellence in Teaching and Research, Miami University, April 2008.

Donald C. Cox Award for Research Excellence, Ohio & Indiana Branches of the American Society for Microbiology, March 2008.

Donald C. Cox Travel Award, Miami University, September 2007.

Donald C. Cox Award for Research Excellence, Ohio Branch ASM Meeting, April 2007.

Graduate Achievement Award, Graduate School, Miami University, March 2006.

Summer Scholar Grant, Indiana University, June 2003.

### C. Peer-reviewed publications.

1. McClain, M.S., Duncan, S.S., **Gaddy, J.A.**, Cover, T.L. (2013) Control of gene expression in *Helicobacter pylori* using the Tet repressor. *J. Microbiol. Methods*. 95(3):336-341.

2. Parekh, V.V., Wu, L., Boyd, K.L., Williams, J.A., **Gaddy, J.A.**, Olivares-Villagómez, D., Cover, T.L., Zong, W.X., Zhang, J., Van Kaer, L. Impaired autophagy, defective T cell homeostasis, and a wasting

- syndrome in Mice with a T cell-specific deletion of Vps34. (2013) *J. Immunol.* 190(10):5086-101. PMID:PMC3646937.
3. **Gaddy, J.A.**, Radin, J.N., Loh, J.T., Zhang, F., Washington, M.K., Peek, R.M., Algood, H.M.S., Cover, T.L. High dietary salt intake exacerbates *Helicobacter pylori*-induced gastric carcinogenesis. (2013) *Infection and Immunity* 81:2258-2267. PMID:PMC3676043.
  4. Radin, J.N., **Gaddy, J.A.\***, Gonzalez-Rivera, C., Loh, J.T., Algood, H.M.S., Cover, T.L. Flagellar localization of a *Helicobacter pylori* autotransporter protein. (2013) *MBio.* 4(2): e00613-12. PMID:PMC3622936.
  5. Barrozo, R.M., Cooke, C.L., Hansen, L.M., Lam, A.M., **Gaddy, J.A.**, Johnson, E.M., Cariaga, T.A., Suarez, G., Peek, R.M., Cover, T.L., Solnick, J.V. Functional plasticity in the Type IV secretion system of *Helicobacter pylori*. (2013) *PLoS Pathogens.* 9(2): e1003189. PMID:PMC3585145.
  6. Noto, J.M., **Gaddy, J.A.**, Lee, J.Y., Piazuolo, M.B., Friedman, D.B., Colvin, D.C., Romero-Gallo, J., Suarez, G., Loh, J., Slaughter, J.C., Tan, S., Morgan, D.R., Wilson, K.T., Bravo, L.E., Correa, P., Cover, T.L., Amieva, M.R., Peek, RM Jr. (2013). Iron deficiency accelerates *Helicobacter pylori*-induced carcinogenesis in rodents and humans. *J. Clin. Invest.* 123(1):479-92. PMID:PMC3533289.
  7. Nwugo, C.C., Arivett, B.A., Zimble, D.L., **Gaddy, J.A.**, Richards, A.M., Actis, L.A. (2012). Effect of ethanol on differential protein production and expression of potential virulence functions in the opportunistic pathogen *Acinetobacter baumannii*. *PLoS One.* 7(12): e51936. PMID:PMC3527336
  8. Johnson, E.M., **Gaddy, J.A.\***, Cover, T.L. (2012). Alterations in *Helicobacter pylori* triggered by contact with gastric epithelial cells. *Frontiers in Cellular and Infection Microbiology.* 2:17. PMID:PMC3417513
  9. **Gaddy, J.A.**, Arivett, B.A., McConnell, M.J., Lopez-Rojas, R., Pachon, J., Actis, L.A. (2012) Role of acinetobactin-mediated iron acquisition functions in the interaction of *Acinetobacter baumannii* ATCC 19606T with human lung epithelial cells, *Galleria mellonella* caterpillars and mice. *Infection and Immunity.* 80(3):1015-24.
  10. Shaffer, C.L., **Gaddy, J.A.**, Loh, J.T., Johnson, E.M., Hill, S., Hennig, E.E., McDonald, W.H., McClain, M.S., Cover, T.L. (2011) Pilus assembly at the interface of *Helicobacter pylori* and gastric epithelial cells requires specialized type IV secretion system components. *PLoS Pathogens.* 7 (9): e1002237. PMID:PMC3164655
  11. Nwugo, C.C., **Gaddy, J.A.**, Zimble, D.L., Actis, L.A. (2011) Deciphering the iron response in *Acinetobacter baumannii*: a proteomics approach. *Journal of Proteomics.* 74 (1): 44-58.
  12. Mussi, M.A., **Gaddy, J.A.**, Arivett, B.A., Viale, A., Rasia, R., Actis, L.A. (2010) The opportunistic human pathogen *Acinetobacter baumannii* senses and responds to blue light. *Journal of Bacteriology.* 192 (24): 6336-45.
  13. **Gaddy, J.A.**, Tomaras, A.P., and Actis, L.A. (2009). The *Acinetobacter baumannii* 19606 OmpA protein plays a role in biofilm formation on abiotic and biotic surfaces and in the interaction of this pathogen with eukaryotic cells. *Infection and Immunity.* 77 (8): 3150-60.
  14. Breij, A., **Gaddy, J.A.**, Meer, J., Koning, R., Koster, A., Broek, P., Actis, L.A., Nibbering, P., Dijkshoorn, L. (2009). CsuA/BABCDE-dependent pili are not involved in the adherence of *Acinetobacter baumannii* ATCC 19606T to human airway epithelial cells and their inflammatory response. *Research in Microbiology.* 160 (3): 213-218.
  15. Zimble, D.L., Penwell, W.F., **Gaddy, J.A.**, Menke, S.M., Tomaras, A.P., Connerly, P.L., and Actis, L.A. (2009). Iron acquisition functions expressed by the human pathogen *Acinetobacter baumannii*. *Biomaterials.* 22 (1): 23-32.

## E. Research Support

NRSA F32AI102568 Gaddy (PI)  
NIH/NIAID

8/1/2012-6/30/2013

Title: Metal-dependent regulation of the *H. pylori* Cag type IV secretion system

The major goal is to determine the contribution of the iron and zinc homeostasis to the regulation of the Cag Type IV secretion system pilus biogenesis.

Role: PI

CDA-2 1IK2BX001701 Gaddy (PI)

7/1/2013-6/30/2018

Dept. of Veterans Affairs

Title: Regulation of the *Helicobacter pylori* pili encoded by the *cag* pathogenicity island

The major goal is to determine the level of regulation (transcriptional or post-transcriptional) and to identify the regulators involved in metal-homeostasis that also contribute to the regulation of the Cag Type IV secretion system pili formation and activity.