# Curriculum Vitae (September 2017)

# **1. Personal Information**

Full Name:	Marvin Whiteley, Ph.D.
Business Address:	Georgia Institute of Technology Petit Institute of Bioengineering and Biosciences, Room 1314 315 Ferst Drive NW Atlanta, GA 30332-0363
Email address:	marvin.whiteley@biosci.gatech.edu
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Home address:	719 South Candler Decatur, GA 30030
Date of Birth:	June 21, 1972
Place of Birth:	Georgetown, TX

# 2. Positions Held

Professor, Biological Sciences Georgia Institute of Technology Bennie H. & Nelson D. Abell Chair in Molecular and Cellular Biology Georgia Research Alliance Eminent Scholar
Associate Director, CF Center Emory Medical School
Professor, Molecular Biosciences
Director, John R. LaMontagne Center for Infectious Disease
University of Texas at Austin
Associate Professor, Molecular Genetics and Microbiology
University of Texas at Austin
Assistant Professor, Molecular Genetics and Microbiology
University of Texas at Austin
Assistant Professor, Microbiology University of Oklahoma/University of Oklahoma Health Sciences Center

# 3. Education and Training

2002	Scientist Cumbre Pharmaceuticals
2001-2002	Postdoctoral Fellow Stanford University In the laboratory of Dr. Sharon Long
1997-2001	Ph.D. Microbiology University of Iowa Thesis "Quorum sensing and biofilm development in <i>Pseudomonas aeruginosa</i> " In the laboratory of Dr. E.P. Greenberg
1995-1997	M.S. Biology Southwest Texas State University (now Texas State University) Department of Biology Thesis "Effects of Nutrient Limitation and Species Composition on Biofilm Development and Susceptibility to Iodine Disinfection"

	In the laboratory of Dr. Robert J.C. McLean
1990-1995	B.S. Zoology University of Texas at Austin

# 4. Faculty Honors and Fellowships

2017-present	Bennie H. & Nelson D. Abell Chair in Molecular and Cellular Biology
2017-present	Georgia Research Alliance Eminent Scholar
2017-present	Editor, Infection and Immunity
2016-present 2016	Editor, mBio
2016	Lundbeck Foundation visiting Professorship, University of Copenhagen
2016-2017	Distinguished alumni, Texas State University Mary M. Betzner Morrow Centennial Chair in Microbiology, UT-Austin
2015-present	Senior editor, Microbiology
2013-present 2014	Elected to American Academy of Microbiology
2014-2015	ASM Division D Councilor
2013-2014	Faculty Council member, UT-Austin
2013-2014	ASM Division D chair
2013-2015	John Ring LaMontagne Chair in Infectious Diseases and Global Health Fellow,
	UT-Austin
2012-2013	William Tonn faculty endowed fellow, UT-Austin
2011-present	Member faculty 1000, Microbial Physiology & Metabolism Section
2011-2012	ASM Division D chair-elect
2010-2012	American Society for Microbiology branch lecturer
2010-2015	Associate editor, Microbiology UK
2010-present	Editorial board, Journal of Bacteriology
2009	Dean's teaching excellence award, UT-Austin
2009	Kavli Frontiers of Science Fellow, National Academy of Sciences
2009	President, Texas Branch ASM
2008-present	Standing member Cystic Fibrosis Foundation Research and Training Committee
2008-present	Editorial board, Applied and Environmental Microbiology
2008	Selected as a Burroughs Wellcome Investigator in Pathogenesis of Infectious Disease
	* National competition selecting promising young investigators in
	microbial pathogenesis.
2008	Merck Irving S. Sigal Memorial Award
	* Only 2 awards given nationally. Given by the American Society for
	Microbiology for excellence in basic research in medical microbiology
	and infectious disease. Award presented at the national meeting.
2006-present	Appointed Institute for Cellular and Molecular Biology Fellow, UT-Austin
2003	OCAST Young Investigator Award (\$300,000 grant)
	* Only 2 awards given in the state of Oklahoma

# 5. Pre- Faculty Honors and Fellowships

2000	Ura Barikrishna award for best paper presentation at ASM meeting
1999	NIH Predoctoral Fellowship in Biocatalysis and Bioprocessing
1997	Henry Norris Scholarship for Academic Excellence
1997	Schultze Scholarship for Research Achievement
1997	George W. Meyer Scholarship for Microbiology
1997	NSF Predoctoral Fellowship: Gene Regulation and Bioremediation
1996	O.B. Williams Award for Best Paper in Microbiology
1996	Graduate Stipend award recipient, Southwest Texas State
1995	Hemphill-Gilmore Scholarship for Academic Excellence
1995	Henry Norris Scholarship for Academic Excellence
1994	University Co-op Scholarship for Academic Achievement

# 6. Publications (Over 100)

# Relevant to polymicrobial interactions

- Ibberson CB, Stacy A, Fleming D, Dees JL, Rumbaugh K, Gilmore MS, and M. Whiteley. 2017. Coinfecting microbes dramatically alter pathogen gene essentiality during polymicrobial infection. Nature Microbiol. 2:17079.
- Stacy A, Abraham N, Jorth PJ, and **M. Whiteley**. 2016. Microbial community composition impacts pathogen iron availability during polymicrobial infection. PLoS Pathogens. Dec 14;12(12).
- Stacy A, McNally L, Darch SE, Brown SP, and **Whiteley M**. 2016. The biogeography of polymicrobial infection. Nat Rev Microbiol. 2016 Feb;14(2):93-105.
- Stacy A, Everett J, Jorth P, Trivedi U, Rumbaugh KP, and **Whiteley M**. Bacterial fight-and-flight responses enhance virulence in a polymicrobial infection. 2014. PNAS, 111(21):7819-24.
- Jorth P, Turner KH, Gumus P, Nizam N, Buduneli N, **Whiteley M**. 2014. Metatranscriptomics of the human oral microbiome during health and disease. mBio. 2014 Apr 1;5(2).
- Korgaonkar, A.K., U. Trivedi, K.P. Rumbaugh, and M. Whiteley. 2013. Community surveillance enhances *Pseudomonas aeruginosa* virulence during polymicrobial infection. PNAS. 110(3):1059-64. PMID: 23277552.
- Ramsey, M.M., K.P. Rumbaugh, and **M. Whiteley**. 2011. Metabolite cross-feeding enhances virulence in a model polymicrobial infection. PLoS Pathogens, 7(3):e1002012.
- Korgaonkar, A.K. and M. Whiteley. 2011. *Pseudomonas aeruginosa* enhances production of an antimicrobial in response to N-acetylglucosamine and peptidoglycan. J. Bacteriol. 193(4):909-17.
- Ramsey, M.M. and **M. Whiteley**. 2009. Polymicrobial interactions stimulate resistance to host innate immunity through metabolite perception. PNAS 106:1578-83.
- Mashburn, L.M., A.M. Jett, D.R. Akins, and **M. Whiteley**. 2005. *Staphylococcus aureus* serves as an iron source for *Pseudomonas aeruginosa* during *in vivo* co-culture. J. Bacteriol. 187(2):554-566.

# Relevant to microscale investigations of bacterial interactions

- JL Connell, J Kim, JB Shear, AJ Bard, and M Whiteley. 2014. Real-time monitoring of quorum sensing in 3D-printed bacterial aggregates using scanning electrochemical microscopy. PNAS 111(51):18255-60.
- Wessel AK, Arshad TA, Fitzpatrick M, Connell JL, Bonnecaze RT, Shear JB, Whiteley M. 2014. Oxygen Limitation within a Bacterial Aggregate. mBio.15;5(2).
- Connell JL, Ritschdorff ET, Whiteley M, Shear JB. 2013. 3D printing of microscopic bacterial communities. PNAS. 110(46):18380-5.
- Wessel AK, Hmelo L, Parsek MR, **Whiteley M**. 2013. Going local: technologies for exploring bacterial microenvironments. Nature Rev. Microbiol. 11(5):337-48.
- D. Koley, M.M. Ramsey, A.J. Bard, and **M. Whiteley**. 2011. Discovery of a Biofilm Electrocline using real-time 3D Metabolite Analysis. PNAS. 108(50):19996-20001.
- Liu, X., M.M Ramsey, X. Chen, D. Koley, **M. Whiteley**, A.J. Bard. 2011. Real time mapping of a hydrogen peroxide concentration profile across a polymicrobial bacterial biofilm using scanning electrochemical microscopy (SECM). PNAS, 108(7):2668-73.
- Connell, J., A. Wessel, M.R. Parsek, **\*M. Whiteley**, **\***J.B. Shear. 2010. Probing prokaryotic group activities with bacterial lobster traps. mBio. 12;1(4). pii: e00202-10. **\*** co-corresponding authors.

# Relevant to bacterial genomics and pathogenesis

- Turner KH, Wessel AK, Palmer GC, Murray JL, and M. Whiteley. 2015. Essential genome of *Pseudomonas aeruginosa* in cystic fibrosis sputum. PNAS. 112(13):4110-5.
- Murray JL, Kwon T, Marcotte EM, **Whiteley** M. 2015. Intrinsic antimicrobial resistance determinants in the superbug *Pseudomonas aeruginosa*. mBio. 2015 Oct 27;6(6).
- Turner KH, Everett J, Trivedi U, Rumbaugh KP, & Whiteley M. 2014. Requirements for *Pseudomonas aeruginosa* acute burn and chronic surgical wound infection. PLoS Genetics. Jul 24;10(7):e100451.

- Schertzer JW and **M. Whiteley**. 2012. A bilayer couple model of bacterial outer membrane vesicle biogenesis. mBio 3(2). pii: e00297-11.
- Schertzer, J.W., S.A. Brown, and **M. Whiteley.** 2010. Oxygen levels rapidly modulate *Pseudomonas* aeruginosa social behaviours via substrate limitation of PqsH. Mol. Microbiol. 77(6):1527-38.
- Mashburn-Warren, L., J. Howe, P. Garidel, W. Richter, F. Steiniger, M. Roessle, K. Brandenburg, and M. Whiteley. 2008. Interaction of quorum signals with outer membrane lipids: Insights into prokaryotic membrane vesicle formation. Mol. Microbiol. 69(2):491-502.
- Mashburn, L.M., and **M. Whiteley**. 2005. Membrane vesicles traffic signals and facilitate group activities in a prokaryote. Nature 437: 422-425.
- Whiteley, M., M.G. Bangera, S. Lory, and E.P. Greenberg. 2001. Gene expression in *Pseudomonas aeruginosa* biofilms. Nature. 413(6858):860-864.
- Whiteley, M., K.M. Lee, and E.P. Greenberg. 1999. Identification of genes controlled by quorum sensing in *Pseudomonas aeruginosa*. PNAS. 96: 13904-13909.

# Other publications

- McLean, R.J.C., M. Whiteley, D. Stickler, W.C. Fuqua. 1997. Presence of autoinducer in naturally occurring biofilms. FEMS Microbiol. Lett. 154: 259-263.
- Whiteley M., and R.J.C. McLean. 1997. An Inexpensive Chemostat Apparatus for the study of Microbial Biofilms. J. Microbiol. Meth. 30:125-132.
- R.J.C. McLean, **M. Whiteley**, B. C. Hoskins, P. Majors, M.M. Sharma. 1999. Laboratory techniques for studying biofilm growth, physiology, and gene expression in flowing systems and porous media. Methods in Enzymology. 310: 259-263.
- Whiteley, M., M.R. Parsek, and E.P. Greenberg. 2000. Control of quorum sensing by RpoS in *Pseudomonas aeruginosa*. J. Bacteriol. 182:4356-4360.
- Whiteley, M., J.R. Ott, E.A. Weaver, and R.J.C. McLean. 2001. Effects of community composition and growth rate on aquifer biofilm bacteria and their susceptibility to betadine disinfection. Environ. Microbiol. 1: 43-52.
- Kim JW, Terc HA, Flowers LO, **Whiteley M**, Peeples TL. 2001. Novel, thermostable family-13-like glycoside hydrolase from *Methanococcus jannaschii*. Folia Microbiol. 46(6):475-81.
- Kim JW, Flowers LO, **Whiteley M**, Peeples TL. Biochemical confirmation and characterization of the family-57-like alpha-amylase of *Methanococcus jannaschii*. Folia Microbiol. 46(6):467-73.
- Chugani, S.A., M. Whiteley, K.M. Lee, D. D'Argenio, C. Manoil, and E.P. Greenberg. 2001. QscR, a modulator of quorum-sensing signal synthesis and virulence in *Pseudomonas aeruginosa*. PNAS. 98:2752-2757.
- Whiteley, M., and E.P. Greenberg. 2001. Promoter specificity elements in *Pseudomonas aeruginosa* quorum-sensing-controlled genes. J. Bacteriol. 183:5529-5534.
- Whiteley, M., M.G. Bangera, S. Lory, and E.P. Greenberg. 2001. Gene expression in *Pseudomonas* aeruginosa biofilms. Nature. 413(6858):860-864.
- Smalley, D.J., **M. Whiteley**, and T.Conway. 2003. In search of the minimal *E. coli* genome. Trends Microbiol. 11:6-8.
- Ramsey, M.R., and **M. Whiteley**. 2004. *Pseudomonas aeruginosa* attachment and biofilm formation in dynamic environments. Mol. Microbiol. 53(4):1075-87.
- Palmer, K.P., L.M. Mashburn, P.K. Singh, and **M. Whiteley**. 2005. Cystic fibrosis sputum supports growth and cues key aspects of *Pseudomonas aeruginosa* physiology. J. Bacteriol. 187 (15): 5267-5277.
- Huang, J., A. Petersen, **M. Whiteley**, and J.R. Leadbetter. 2005. Identification of QuiP, the product of gene PA1032, as the second acyl-homoserine lactone acylase encoded by *Pseudomonas aeruginosa* PAO1. Appl. Environ. Microbiol. 72: 1190-1197.
- Aspedon, A, K.P. Palmer, and **M. Whiteley**. 2006. Microarray analysis of the osmotic stress response in *Pseudomonas aeruginosa*. J. Bacteriol. 188(7):2721-5.
- Moreira CG, K.P. Palmer, M. Whiteley, MP Sircili, LR Trabulsi, AF Castro, V. Sperandio. 2006. Bundle-Forming Pili and EspA Are Involved in Biofilm Formation by Enteropathogenic *Escherichia coli*. J. Bacteriol. 188(11):3952-61.

- L.M. Mashburn and **M. Whiteley**. 2006. Special Delivery: vesicle trafficking in prokaryotes. Mol. Microbiol. 61(4):839-46.
- Dietrich L.E., A. Price-Whelan, A. Petersen, **M. Whiteley**, and D.K. Newman. 2006. The phenazine pyocyanin is a terminal signaling factor in the quorum sensing network of *Pseudomonas aeruginosa*. Mol. Microbiol. 61(5):1308-21.
- Bates C.L., M.R.J. Forstner, M.B. Barnes, **M. Whiteley**, and R.J. C. McLean. 2006. Heterotrophic limestone-adherent biofilm isolates from the Edward's aquifer, Texas. The Southwestern Naturalist. 51: 299-309.
- Teitzel, G.M., A. Geddie, S.K. De Long, M.J. Kirisits, **M. Whiteley**, and M.R. Parsek. 2006. Survival and Growth in the Presence of Elevated Copper: Transcriptional Profiling of Copper-Stressed *Pseudomonas aeruginosa*. J. Bacteriol. 188(20): 7242-7256.
- Palmer K.L., S.A. Brown, and **M. Whiteley.** 2007. The membrane-bound nitrate reductase is required for anaerobic growth in cystic fibrosis sputum. J. Bacteriol. 189:4449-4455.
- Brown, S.A. and **M. Whiteley.** 2007. A novel exclusion mechanism for carbon preference in *Aggregatibacter actinomycetemcomitans*. J. Bacteriol. 189:6407-6414.
- Mashburn-Warren, L.M, R.J.C. McLean, and **M. Whiteley.** 2008. Gram-negative outer membrane vesicles: Beyond the cell surface. Geobiology, 2008 Jun;6(3):214-9.
- Kukavica-Ibrulj, I., F. Sanschagrin, A. Petersen, M. Whiteley, B. Boyle, J. MacKay, and R.C. Levesque. 2008. Functional Genomics of PycR, a LysR family transcriptional regulator essential for maintenance of *Pseudomonas aeruginosa* in the rat lung. Microbiology 154:2106-18.
- Brown, S.A., K.L. Palmer, and **M. Whiteley**. 2008. Revisiting the host as a growth medium. Nature Reviews Microbiology. 6:657-666.
- Zhang, Y., **M. Whiteley**, J. Kreths, Y. Lei, A. Khammanivong, J.N. Evavold, J. Fan, and M. Herzberg. 2009. The two-component system BfrAB regulates expression of ABC transporters in *Streptococcus gordonii* and *Streptococcus sanguinis*. Microbiology. 155: 165-173.
- Mashburn-Warren L, Howe J, Brandenburg K, **M. Whiteley.** 2009. Structural requirements of the Pseudomonas Quinolone Signal for membrane vesicle stimulation. J Bacteriol. 191:3411-4.
- Schertzer, J.W., M. Boulette, and **M. Whiteley**. 2009. More than a signal: non-signaling properties of quorum sensing molecules. Trends in Microbiol. 17(5):189-95.
- Castañeda-Carrión, I.N., M. Whiteley, Krumholz LR. 2009. Characterization of pNC1, a small and mobilizable plasmid for use in genetic manipulation of *Desulfovibrio africanus*. J Microbiol Methods. PMID: 19631701.
- A. Ueda, C. Attila, **M. Whiteley**, and T. K. Wood. 2009. Uracil influences quorum sensing and biofilm formation in *Pseudomonas aeruginosa* and fluorouracil is an antagonist. Microb. Biotechnol. 2: 62-74.
- Boulette, M.L., P.J. Baynham, P.A. Jorth, I. Kukavica-Ibrulj, A. Longoria, K. Barrera, R.C. Levesque and **M. Whiteley**. 2009. Characterization of alanine catabolism in *Pseudomonas aeruginosa* and its importance for proliferation *in vivo*. J Bacteriol. J Bacteriol.191:6329-34.
- Brown, SA and **M. Whiteley**. 2009. Characterization of the L-Lactate dehydrogenase from *Aggregatibacter actinomycetemcomitans*. PLoS ONE, 17:4(11):e7864.
- Palmer GC, Palmer KL, Jorth PA, **Whiteley M.** 2010. Characterization of the Pseudomonas *aeruginosa* transcriptional response to phenylalanine and tyrosine. J Bacteriol. 192(11):2722-8.
- Huse, H.H., and **M. Whiteley.** 2010. 4-quinolones: Smart phones of the microbial world. Chem Reviews. August 11, Epub ahead of print.
- Huse, H.K., T. Kwon, J.E.A. Zlosnik, D.P. Speert, E.M. Marcotte, and **M. Whiteley**. 2010. Parallel evolution in *Pseudomonas aeruginosa* over 39,000 generations in vivo. mBio, Sep 21;1(4). pii: e00199-10.
- Rogers GB, Hoffman LR, **Whiteley M**, Daniels TV, Carroll MP, Bruce KD. 2010. Revealing the dynamics of polymicrobial infections: implications for antibiotic therapy. Trends Microbiol. 18(8):357-64
- Jorth PA and **M. Whiteley**. 2010. Characterization of a novel riboswitch-regulated lysine transporter in *Aggregatibacter actinomycetemcomitans*. J. Bacteriol. 192:6240-50.
- Laurent, J., C. Vogel, T. Kwon, S.A. Craig, D.R. Boutz, H.K. Huse, K. Nozue, H. Walia, M. Whiteley, P.C. Ronald, E.M. Marcotte. 2010. Protein abundances are more conserved than mRNA abundances across diverse taxa. Proteomics, 23:4209-12.
- Schertzer JW and **M. Whiteley**. 2011. Microbial communication superhighways. Cell, 144(4):469-70.

- Palmer KL, Whiteley M. 2011. DMS3-42: The secret to CRISPR-dependent biofilm inhibition in *Pseudomonas aeruginosa*. J Bacteriol. 2011 May 6.
- Ng DW, Zhang C, Miller M, Palmer G, **Whiteley M**, Tholl D, Chen ZJ. 2011. cis- and trans-Regulation of miR163 and Target Genes Confers Natural Variation of Secondary Metabolites in Two Arabidopsis Species and Their Allopolyploids. Plant Cell. 23(5):1729-40.
- Connell JL, **Whiteley M**, Shear JB. 2011. Sociomicrobiology in engineered landscapes. Nat Chem Biol. 2011 Dec 15;8(1):10-3
- Stacy AR, Diggle SP, **Whiteley M**. 2011. Rules of engagement: defining bacterial communication. Curr Opin Microbiol. Dec 18.
- Chu W, Zere TR, Weber MM, Wood TK, **Whiteley M**, Hidalgo-Romano B, Valenzuela E Jr, McLean RJ. 2012. Indole Production Promotes *Escherichia coli* Mixed-Culture Growth with *Pseudomonas aeruginosa* by Inhibiting Quorum Signaling. Appl Environ Microbiol. 78(2):411-9.
- Miller DJ, Araújo PA, Correia PB, Ramsey MM, Kruithof JC, van Loosdrecht MC, Freeman BD, Paul DR, Whiteley M, Vrouwenvelder JS. 2012. Short-term adhesion and long-term biofouling testing of polydopamine and poly(ethylene glycol) surface modifications of membranes and feed spacers for biofouling control. Water Res. 46:3737-53.
- Youle M, Rohwer F, Stacy A, Whiteley M, Steel BC, Delalez NJ, Nord AL, Berry RM, Armitage JP, Kamoun S, Hogenhout S, Diggle SP, Gurney J, Pollitt EJ, Boetius A, Cary SC. 2012. The microbial olympics. Nat Rev Microbiol. 2012 Jul 16;10(8):583-8.
- Jorth, P.A. and **M. Whiteley**. 2012. An Evolutionary Link Between Natural Transformation and CRISPR Adaptive Immunity, mBio. Nov 1;3(5).
- Palmer GC, Jorth PA, **Whiteley M**. 2013. The role of two *Pseudomonas aeruginosa* anthranilate synthases in tryptophan and quorum signal production. Microbiology. 159(Pt 5):959-69.
- Schertzer JW, **Whiteley M**. 2013. Bacterial outer membrane vesicles in trafficking, communication and the host-pathogen interaction. J Mol Microbiol Biotechnol. 23(1-2):118-30.
- Wessel AK, J. Liew, T. Kwon, E.M. Marcotte, and M. Whiteley. 2013. Role of *Pseudomonas* aeruginosa Peptidoglycan-Associated Outer Membrane Proteins in Vesicle Formation. J Bacteriol. 195(2):213-9.
- Needham BD, Carroll SM, Giles DK, Georgiou G, **Whiteley M**, Trent MS. 2013. Modulating the innate immune response by combinatorial engineering of endotoxin. PNAS. 110(4):1464-9.
- Jorth P, Trivedi U, Rumbaugh K, **Whiteley M**. 2013. Probing bacterial metabolism during infection using high-resolution transcriptomics. J Bacteriol. 195(22):4991-8.
- Schertzer JW, **Whiteley M**. 2013. Bacterial outer membrane vesicles in trafficking, communication and the host-pathogen interaction. J Mol Microbiol Biotechnol. 23:118-30.
- Huse HK, Kwon T, Zlosnik JE, Speert DP, Marcotte EM, Whiteley M. 2013. Pseudomonas aeruginosa enhances production of a non-alginate exopolysaccharide during long-term colonization of the cystic fibrosis lung. PLoS One. 2013 Dec 6;8(12):e82621.
- Murray JL, Connell JL, Stacy A, Turner KH, Whiteley M. 2014. Mechanisms of synergy in polymicrobial infections. J Microbiol. 52(3):188-99.
- Kwon T, HK Huse, C Vogel, **M Whiteley**, and EM Marcotte. 2014. Protein-to-mRNA Ratios Are Conserved between *Pseudomonas aeruginosa* Strains. J Proteome Res. 13(5):2370-80.
- Sams ER, **M Whiteley**, and KH Turner. 2014. "The battle for life": Pasteur, anthrax, and the first probiotics. J Med Microbiol. Aug 15. Epub ahead of print.
- Kim J, Connell JL, **Whiteley M**, Bard AJ. 2014. Development of a Versatile In Vitro Platform for Studying Biological Systems using Micro 3D-Printing and Scanning Electrochemical Microscopy. Anal Chem. 86:12327-33.
- Hidalgo-Romano B, Gollihar J, Brown SA, **Whiteley M**, Valenzuela E Jr, Kaplan HB, Wood TK, McLean RJ. 2014. Indole inhibition of N-acylated homoserine lactone-mediated quorum signalling is widespread in Gram-negative bacteria. Microbiology. 2014 Nov;160(Pt 11):2464-73.
- Estrela S, **Whiteley M**, Brown SP. 2014. The demographic determinants of human microbiome health. Trends Microbiol. 23:134-41.
- Darch SE and **M. Whiteley**. 2015. Show me the SNPs: How bacterial sex generates diversity in the cystic fibrosis lung. Am J Resp Care Med. 191:725-7.

- Barnabie PM and **M. Whiteley**. 2015. Iron-mediated control of *Pseudomonas aeruginosa-Staphylococcus aureus* interactions in the CF lung. J Bacteriol. 197:2250-1.
- Palmer GC, **Whiteley M**. 2015. Metabolism and Pathogenicity of *Pseudomonas aeruginosa* Infections in the Lungs of Individuals with Cystic Fibrosis. Microbiol Spectr. Aug;3(4).
- Hutcherson JA, Gogeneni H, Yoder-Himes D, Hendrickson EL, Hackett M, Whiteley M, Lamont RJ, Scott DA. 2016. Comparison of inherently essential genes of Porphyromonas gingivalis identified in two transposon-sequencing libraries. Mol Oral Microbiol. Aug;31(4):354-64.
- Murray JL, Kwon T, Marcotte EM, **Whiteley M**. 2015. Intrinsic Antimicrobial Resistance Determinants in the Superbug Pseudomonas aeruginosa. mBio. 2015 Oct 27;6(6):e01603-15.
- Michie KL, Cornforth DM, **Whiteley M**. 2016. Bacterial tweets and podcasts #signaling#eavesdropping#microbialfightclub. Mol Biochem Parasitol. 2016 Jul;208(1):41-8.
- Stacy A, Fleming D, Lamont RJ, Rumbaugh KP, **Whiteley M**. 2016. A Commensal Bacterium Promotes Virulence of an Opportunistic Pathogen via Cross-Respiration. mBio. 2016 Jun 28;7(3).
- Chevallereau A, Blasdel BG, De Smet J, Monot M, Zimmermann M, Kogadeeva M, Sauer U, Jorth P, Whiteley M, Debarbieux L, Lavigne R. 2016. Next-Generation "-omics" Approaches Reveal a Massive Alteration of Host RNA Metabolism during Bacteriophage Infection of *Pseudomonas aeruginosa*. PLoS Genet. 2016 Jul 5;12(7):e1006134.
- Sønderholm M, Kragh KN, Koren K, Jakobsen TH, Darch S, Alhede M, Jensen PØ, Whiteley M, Kühl M, Bjarnsholt T. 2017. *Pseudomonas aeruginosa* aggregate formation in an alginate bead model system exhibits *in vivo* like characteristics. Appl Environ Microbiol Apr 17;83(9).
- Everett J, Turner K, Cai Q, Gordon V, **Whiteley M**, Rumbaugh K. 2017. Arginine is a critical substrate for the pathogenesis of *Pseudomonas aeruginosa* in burn wound infections. mBio. 14;8(2).
- Hendrickson EL, Beck DA, Miller DP, Wang Q, **Whiteley M**, Lamont RJ, Hackett M. 2017. Insights into Dynamic Polymicrobial Synergy Revealed by Time-Coursed RNA-Seq. Front Microbiol. 28;8:261.
- Darch SE, Kragh KN, Abbott EA, Bjarnsholt T, Bull JJ, **Whiteley M**. 2017. Phage Inhibit Pathogen Dissemination by Targeting Bacterial Migrants in a Chronic Infection Model. mBio. Apr 4;8(2).
- Darch SE, Ibberson CB, Whiteley M. 2017. Evolution of Bacterial "Frenemies". mBio. 2017 May 23;8(3).
- Smith AC, Rice A, Sutton B, Gabrilska R, Wessel AK, **Whiteley M**, Rumbaugh KP. 2017. Albumin Inhibits *Pseudomonas aeruginosa* Quorum Sensing and Alters Polymicrobial Interactions. Infect Immun. Aug 18;85(9).
- Jiang YS, Stacy A, Whiteley M, Ellington AD, Bhadra S. 2017. Amplicon Competition Enables End-Point Quantitation of Nucleic Acids Following Isothermal Amplification. Chembiochem. Jun 19
- Hendrickson EL, Beck DA, Miller DP, Wang Q, **Whiteley M**, Lamont RJ, Hackett M. 2017. Insights into Dynamic Polymicrobial Synergy Revealed by Time-Coursed RNA-Seq. Front Microbiol. Feb 28;8:261
- Narayanan AM, Ramsey MM, Stacy A, **Whiteley M**. 2017. Defining Genetic Fitness Determinants and Creating Genomic Resources for an Oral Pathogen. Appl Environ Microbiol. Jun 30;83(14).

# Books and Book Chapters

- Mashburn-Warren and **M. Whiteley**. 2008. Signal trafficking with bacterial outer membrane vesicles. *In* Chemical Communication among bacteria. ASM Press.
- Ramsey, M.M., A.K. Korgaonkar, and **M. Whiteley**. 2009. Quorum sensing in bacteria. The Desk Encyclopedia of Microbiology. (Moselio Schaechter, Editor), pp. 987-1004, Oxford: Elsevier.
- Palmer, G.C., J.W. Schertzer, L. Mashburn-Warren, and **M. Whiteley**. 2010. Quantifying *Pseudomonas aeruginosa* quinolones and examining their interactions with lipids. Methods in Molecular Biology. 692:207-17.
- Ramsey, M., M. Boulette, P. Jorth, and **M. Whiteley**. 2010. Metabolite Sensing in a Model Polymicrobial Community. Genomic Inquiries into Oral Bacterial Communities. Edited by Paul Kolenbrander, ASM Press, Washington DC, USA.
- Palmer GC and **M. Whiteley**. 2015. Metabolism and Pathogenicity of Pseudomonas aeruginosa Infections in the Lungs of Individuals with Cystic Fibrosis. Microbiol Spectr. Aug 3(4)

- Hutcherson JA, Gogeneni H, Yoder-Himes D, Hendrickson EL, Hackett M, Whiteley M, Lamont RJ, Scott DA. 2015. Comparison of inherently essential genes of Porphyromonas gingivalis identified in two transposon sequencing libraries. Mol Oral Microbiol, In Press.
- Editor for Microbial Biofilms 2<sup>nd</sup> edition. 2015. ASM Press.

# Patents

- Patent # 6,855,513: M. Whiteley, Lee, K.M., Greenberg, E.P., and Muh, U. Quorum sensing signaling in bacteria. 2005.
- Patent # 8,945,587: Needham, B.D., Giles, D.K., Whiteley, M., Trent, M.S. Synthetic lipid biology for combinatorial engineering of endotoxin. 2015.

# 7. Invited Seminars

- 2017 UT Medical Branch Galveston, Dartmouth Medical School, Microbiology Society Annual Meeting Edinburgh, University of California Irvine, ASM General Meeting New Orleans
- 2016 Genentech, Vanderbilt University Infection and Immunity symposium, University of Indiana, University of Maryland Baltimore County, Rutgers University, ISME 2016, University of Copenhagen, Young Microbiology Conference Dundee Scotland, Discussion meeting on Conflict and Cooperation in Cellular Populations Bangalore India, University of Iowa, Texas Branch ASM, Mechanobiology of Disease Singapore, Georgia Institute of Technology
- 2015 University of Florida, Drexel Medical School, University of Kansas, Texas State University, Mark Wilson Meeting Puerto Rico, University of Miami Ohio, Microbiological Society of Korea, ASM conference for undergraduate educators, University of Minnesota, 3M, Eurobiofilms 2015, University of Louisville, FASEB conference on Molecular Pathogenesis: Mechanisms of Infectious Disease, 3<sup>rd</sup> International Conference on Model-hosts, ASM Biofilms 7, American College of Wound Healing & Tissue Repair Conference
- 2014 Medical College of South Čarolina, Mark Wilson meeting St. Croix, Texas A&M University, University of Washington, SGM Liverpool, Univ. of Florida, Wound Healing Society Annual meeting, Biofilms 6 Vienna, BCID 2014, McMaster University, Microscopy and Microanalysis meeting, Microbiology and Infectious Diseases Asia Congress Singapore, Mechanobiology Institute National University of Singapore, UPMC Children's hospital, McMaster University, Montana State University, Virginia Commonwealth University, 1<sup>st</sup> ASM Conference on Polymicrobial Infections, Innovations in Wound Healing Conference
- 2013 University of Alabama Birmingham, Mark Wilson Meeting Puerto Rico, Gordon Conference on Antimicrobial peptides, SGM Manchester, ASM General Meeting, SCELSE Singapore, University of Maryland, Pseudomonas 2013, Columbia University, Ohio State University, North American CF Conference, Novartis Pharmaceuticals, Danish Microbiology Society, University of Georgia, Systems Biology of Infection Conference
- 2012 Puerto Rico branch ASM, Harvard Medical School, Microbial Sciences Initiative (Harvard University), Mark Wilson Conference Aruba, Ohio Brach ASM, Forsythe Institute, ASM Prokaryotic Cell Biology, EMBL Heidelberg Germany, Mark Wilson meeting Aruba, 2<sup>nd</sup> International conference on model hosts, Rhodes Greece, Virginia Brach ASM, ASM meeting on Prokaryotic Cell Biology, University of North Carolina, Kansas State University, Loyola Medical School, University of Wyoming, Biofilms 5 Paris
- 2011 Univ. of California San Francisco, Alaska branch ASM, SGM meeting Harrogate UK, Pennsylvania branch ASM, Binghamton University, University of Vermont, University of Toledo, Mark Wilson meeting Puerto Rico, UT-San Antonio, Univ. of Wisconsin Madison, Gordon Conference on Microbial Population Biology, Gordon Conference on Microbial adhesion and signal transduction, Broad Institute, Molecular Genetics of Bacteria and Phages Meeting, Virginia branch ASM, Pseudomonas 2011, Tufts Medical School
- 2010 Gordon Research Conference New Antibacterial Discovery & Development, Wake Forest University, ASM General meeting, University of Minnesota, 3M, Bacterial small talk symposium Copenhagen Denmark, Florida ASM branch meeting, North Carolina ASM branch meeting, Georgia Tech, University of Idaho, Session chair North American Cystic Fibrosis meeting

- 2009 St. Jude, University of Washington, Penn University, Yale University, University of Ottawa, Western Michigan University, Texas A&M Health Sciences Center, University of British Columbia, Biofilms 2009, Gordon Conference on Microbial population biology, University of Michigan, Technische Universitaet Braunschweig Germany, UT-Arlington, Harvard Schepens Eye Institute, UT-Southwestern, Symposium on Bacterial Cell Biology and Pathogenesis Sweden, King's College London, University of Michigan
- 2008 Rice University, King's College London, University of Nottingham, Michigan State University, Dartmouth Medical School, Baylor University, Emory Medical School
- 2007 Iowa State University, Society for General Microbiology Manchester UK, ASM General Meeting Toronto Canada, Cystic fibrosis conference, Gordon conference on microbial adhesion and signal transduction, Pseudomonas 2007, UT-Dallas, 15<sup>th</sup> Annual Microbial Genomics Conference
- 2006 California Institute of Technology, Univ. of California Santa Cruz, The Technical University of Denmark, The University of Texas at Austin, Colloquium on nontraditional communication systems ASM General meeting, Univ. of Texas at San Antonio, Texas Branch ASM, Michigan Branch ASM, North Central Branch ASM, Gordon Conference on Bacterial Cell surfaces, Arrowhead Microbial Genomics Conference, Harvard Medical School, Washington University School of Medicine, Princeton University
- 2005 Pseudomonas 2005, Texas Branch ASM, Wind River Conference on Prokaryotic Biology
- 2004 Texas Branch ASM
- 2003 University of Texas at Houston Medical School, Oklahoma State University, Biofilms 2003

# 8. Grant Support

# <u>Current</u>

NIH 1 R01 GM116547-01A101/01/16 to 12/31/19Marvin Whiteley, PI. Mechanisms of polymicrobial synergy in wound infections

Burroughs Wellcome Fund, #1007854 07/01/08 to 06/30/19 Marvin Whiteley, PI. Mechanistic Insight into host modulation of bacterial group activities.

NIH 1R01DE020100-01 07/01/11 to 06/30/17 (No cost ext) Marvin Whiteley, PI. Metabolite sensing in an oral polymicrobial community

NIH 1R01DE023193-0107/19/13 to 05/31/18Marvin Whiteley, PI. Probing polymicrobial synergy using high throughput genomics

Army Research Office, 62507-LS 07/01/13 to 11/23/17 Marvin Whiteley, PI. Polymicrobial virulence mechanisms in chronic wounds.

Human Frontiers of Science 10/01/14 to 09/30/18 Marvin Whiteley Co-PI. Understanding the human microbiome: structure-function feedback in polymicrobial micro-colonies

Cystic Fibrosis Foundation WHITEL16GO 05/01/16 to 04/30/18 Marvin Whiteley, PI. Constructing gene networks to study *P. aeruginosa* physiology in the CF lung.

# Previous

NIH 1R21AI107570-01A1 02/15/14 to 01/31/17 Marvin Whiteley, PI. Genetic determinants of bacterial fitness in polymicrobial wound infections

NIH 1R21AI109281-01 12/05/13 to 11/30/16 Marvin Whiteley, Co-PI. The essential *P. aeruginosa* pan-genome during chronic infection

NIH 1R21AI097929-01

02/06/12 to 01/31/15

			Marvin Whiteley, Ph.D.
	Marvin Whiteley, Co	-PI. Mechanisms of antibiotic resistar	
	Seton Hospital Marvin Whiteley, Co	-PI. Pseudomonas aeruginosa Gene	06/01/14 to 08/31/14 Regulation and Metabolism in Cystic Fibrosis
	NSF Marvin Whiteley, sub	ocontract. Beacon grant	08/01/13 to 07/31/14
		dation, WHITEL11G0 <i>P. aeruginosa</i> antibiotic resistance ir	09/01/11 to 08/30/14 n confined microcolonies
	NIH 1RO1AI075068- Marvin Whiteley, PI.		07/15/07 to 06/30/14 al outer membrane vesicle formation.
	NIH RO3 Marvin Whiteley, Co- Behaviors	-PI. Microfabricated 3D Environments	07/17/09 to 6/30/11 s for Characterizing Bacterial Group
	United States Depar Marvin Whiteley, PI:	tment of Agriculture Signal trafficking in the alfalfa symbi	01/01/07 to 12/31/11 ont <i>Sinorhizobium meliloti</i>
	Cystic Fibrosis Foun Marvin Whiteley, PI.	dation <i>Pseudomonas aeruginosa</i> metabolis	08/18/06 to 08/17/11 om in the CF lung
	Advanced Research Marvin Whiteley, Co	Program -PI. Profiling bacterial species' intera	06/01/08 - 05/31/10 ctions
	National Science Fo Marvin Whiteley, Pl.	undation Vesicle-mediated signal trafficking ir	08/17/06 to 05/31/10 Prokaryotes
	National Science Fo Marvin Whiteley, Pl.	undation REU Supplement to Vesicle-mediate	08/17/06 - 05/31/10 ed signal trafficking in Prokaryotes
	OCAST Young Invest Marvin Whiteley, Pl.	stigator Award Single cell genetic analysis of <i>P. aer</i>	07/01/03 to 06/30/06 <i>ruginosa</i> biofilms
	NIH Marvin Whiteley, Co	-PI. Biofilm formation in Actinobacillu	07/01/04 to 06/30/06 s actinomycetemcomitans (Aa)
	NIH Marvin Whiteley, Co	-PI. Gene expression in <i>Pseudomon</i>	09/01/02 to 06/30/04 as aeruginosa biofilms
	NSF EPSCOR Marvin Whiteley, PI.	Equipment grant	2003
	OSU-Regents Marvin Whiteley, PI.	Equipment grant.	2003
<u>9. Pro</u>	fessional Organizati	<u>on Memberships</u>	
	American Society for Texas Branch Ameri	r Microbiology can Society for Microbiology	
10. Grant Review Panels			
	2013-present 2012 2011	Standing member NIH ODCS study NIH ODCS study section NIH Special Emphasis Panel Revie	

2010	ad hoc reviewer, Israel Science Foundation
2010	ad hoc reviewer NSF Cellular Systems
2009	NIH Special Emphasis panel ZRG1 IDMA 90
2008	NASA Microbial Cell and Molecular Biology Panel
2008	ad hoc reviewer NSF Cellular Systems
2007	National Science Foundation Cellular Systems Panel
2007	NIH Special Emphasis panel ZRG1 IDMA 90
2007-present	Cystic Fibrosis Foundation review panel standing member
2007	ad hoc reviewer BBRC (UK)
2007	ad hoc reviewer Health Research Board Ireland
2006	NIH Special Emphasis panel ZRG1 IDMA 90
2006	External Faculty evaluator, Institut Pasteur
2006	IDeA Network of Biomedical Research Excellence grant review committee
2004	IDeA Network of Biomedical Research Excellence grant review committee

# <u>11. Reviewer</u>

Journal of Bacteriology, EMBO Journal, Proceedings of the National Academy of Sciences U.S.A., Plasmid, Molecular Microbiology, Trends in Microbiology, PLoS Biology, PLoS Pathogens, Applied and Environmental Microbiology, Infection and Immunity, Environmental Science and Technology, Journal of Molecular Biology, The ISME Journal, Plant Physiology, Geobiology, BMC Microbiology, Nature Reviews Microbiology, mBio, Microbiology UK, Molecular Microbiology, Nature, Science

# 12. Student/Post-doc honors during tenure in Whiteley lab

#### Students

Kelli Palmer:

Awarded fellowship for Wood's Hole Microbial Diversity course (2008) Awarded Lois Pfiester Women in Science Scholarship (2005) Awarded Transatlantic Environ. Biotechnology Fellowship, national competition (2004) Awarded Travel Grant for the ASM Conference on Cell-Cell Communication (2004) Awarded Travel Grant for the ASM Conference on Biofilms (2003) Awarded University of Oklahoma Foundation Fellowship (2003)

# Lauren Mashburn-Warren:

Awarded ASM Raymond W. Sarber award for recognition as the most outstanding graduate student in microbiology. National competition, only 1 award given. (2008) Awarded O.B. Williams award for best oral presentation, Texas branch ASM (2007) Awarded Winifred Small Jones award. MGM poster session UT-Austin (2007) Awarded student travel grant for ASM Conference on Cell-Cell Communication (2007) Awarded Transatlantic Environ. Biotechnology Fellowship, national competition (2007)

#### Stacie Brown: Awarded 2<sup>nd</sup> prize for best oral presentation, Texas branch ASM (2007) Awarded A.P. Brady Endowed Fellowship Travel Award, UT-Austin (2007) Awarded Best Oral presentation, Wind River Conference on Prokaryotic Biology (2006) Awarded NSF Arnold Ravin-Muriel Rogers Fellowship for travel (2006) Awarded NSF Arnold Ravin-Muriel Rogers Fellowship for travel (2005)

- Matt Ramsey: Awarded an F31 NIH pre-doctoral fellowship (2009) Awarded A.P. Bradie Endowed Fellowship Travel Grant (2008) 2<sup>nd</sup> prize presentation, Meeting International Pasteurelleaceae Society (2008) Awarded S.E. Sulkin Award for Outstanding Presentation in Medical Microbiology. Texas Branch ASM meeting. (2007)
- Peter Jorth: Golden Microbe Award, UT-Austin (2011) Awarded an F31 NIH pre-doctoral fellowship (2011) Props for Profs Outstanding Teaching Assistant Award, UT-Austin (2011) Honorable mention best poster presentation, TX Branch ASM (2008)

Aimee Wessel:	Awarded 1 <sup>st</sup> prize for poster presentation at Pseudomonas meeting (2009) Awarded an F31 NIH pre-doctoral fellowship (2011)
Gregory Palmer:	University of Texas at Austin Graduate School Bruton Continuing Fellowship (2011) Wind River Conference on Prokaryotic Biology Travel Award (2009)
Holly Huse:	Awarded fellowship for Wood's Hole Microbial Diversity course (2012) William Powell Endowed Fellow, University of Texas at Austin (2012-2013) University of Texas at Austin Continuing Fellow (2011-2012) Goldshmidt Award for outstanding woman in microbiology, Texas Branch ASM (2012) S. Edward Sulkin Award, Texas Branch ASM (2010) A.P. Bradie Endowed Fellowship, UT-Austin University of Texas at Austin Preemptive Graduate School Fellowship (2007)
Aishwarya Korgaonk	ar: Poster award, Molecular Genetics of Bacteria and Phages Meeting (2011) Travel award from A.P. Bradie Endowed Fellowship, UT- Austin (2010) S. Edward Sulkin Award, Second place, Texas ASM Branch Meeting (2010) Student travel award, Windriver Conference on Prokaryotic Biology (2009) Sam Kaplan Poster Award; Honorable mention Texas ASM Branch Meeting (2007)
Apollo Stacy	Awarded an F31 NIH pre-doctoral fellowship (2014)
Post-doctoral Fellows Jeffrey Schertzer: Megan Boulette: Keith Turner: Jodi Connell: Dan Cornforth: Sophie Darch: Carolyn Ibberson:	Awarded a fellowship from the Canadian Cystic Fibrosis Foundation Awarded a fellowship from the Cystic Fibrosis Foundation

# 13. Committee assignments

# Administrative at UT

Gina Lewin:

• Chair, Faculty search committee Moleular Biosciences (2016-2017)

Awarded an NIH F32 fellowship

- Faculty search committee Moleular Biosciences (2015-2016)
- Molecular Biosciences Advisory Committee (2015-present)
- Faculty Council, UT-Austin (2013)
- Interim curriculum committee, Molecular Biosciences (2013)
- Interim Workload Committee, Molecular Biosciences (2013)
- MBS chair search committee (2013)
- Freshman Research initiative stream, "Discovery and function of antibiotics in natural communities" (2012)
- Molecular Genetics and Microbiology awards committee (2012)
- Study Abroad Curriculum Integration Committee (2011-present)
- Faculty Search committee, Cell and Molecular Biology (2010)
- Curriculum committee, Microbiology (2010-present)
- Judge, Siemens High School Science Competition (2010)
- Committee to restructure Introductory Biology laboratories (2009)
- Admissions Committee, Microbiology Graduate Program (2008, 2009)
- Admissions Committee, Cellular and Molecular Biology Graduate Program (2008, 2009)

- Institute of Cell and Molecular Biology Advisory Committee ICMB (2008-2011)
- Member, Biochemistry graduate studies committee (2008-present)
- Chair, Faculty Search committee, Department Molecular Genetics and Microbiology (2008)
- Faculty Search committee, Department Molecular Genetics and Microbiology (2006)
- Member, Microbiology Graduate Studies Committee (2006 present)
- Member, Cellular and Molecular Biology Graduate Studies Committee (2006 present)

# 14. Training

Postdoctoral Fellows

2016-present 2015-present 2015-present 2013-present 2013-present 2012-2015 2012-2015 2013-2014 2007-2012	Dr. Gina Lewin Dr. Carolyn Ibberson Dr. Emily Nowicki Dr. Dan Cornforth Dr. Sophie Darch Dr. Jodi Connell, Scientist at 3M Dr. Keith Turner, Scientist at Monsanto Dr. Keith Turner, Scientist at Monsanto Dr. Aimee Wessel Currently a post-doc at Pasteur Institute Dr. Jeffrey Schertzer. Currently an assistant professor at SUNY Binghamton.
Graduate students	
2003 - 2008	Kelli Palmer (Ph.D., Microbiology) Currently an assistant professor at UT-Dallas
2003 - 2008	Lauren Warren (Ph.D., Microbiology) Currently a research professor at Ohio State University
2004 - 2010	Stacie Brown (Ph.D., Microbiology) Currently a faculty member at Southwestern University
2006 - 2011	Matthew Ramsey (Ph.D., Microbiology) Currently an assistant professor at the University of Rhode Island
2007 – 2012	Aishwarya Korgaonkar (Ph.D., Microbiology) Currently a post-doc at Janelia Farms
2008 – 2012	Greg Palmer (Ph.D., Microbiology) Currently coordinates a Freshman Research Initiative stream at UT- Austin
2008 – 2014	Peter Jorth (Ph.D., Microbiology) Currently a Post-doc at Cal-Tech
2008 – 2014	Aimee Wessel (Ph.D., Microbiology) Currently a Post-doc at Pasteur Institute
2008 – 2014	Holly Huse (Ph.D., Microbiology) Currently a clinical research fellow at UCLA
2010 – 2017	Apollo Stacy (Microbiology)
2013 – 2017	Justine Murray (Microbiology)
2014 - Present	Margaret Steele (Microbiology)
2015 - Present 2015 - Present	Kelly Michie (Microbiology) Juan Barraza (Biochemistry)

# 15. Outreach via NSF-funded minority students

My previous NSF grant contained a provision to bring into the laboratory two minority undergraduates from 4-year institutions to obtain research experience. These students spend 10-weeks in the laboratory working full-time. As a supplement to this grant, I also employ Dr. Patricia Baynham, an assistant professor at St. Edwards University, to oversee their research and provide one-on-one instruction. This program continues via funding to Dr. Patricia Baynham through USDA.

Summer 2007

Karla Barrera and Aissa Longoria

Summer 2008 Summer 2009 Summer 2011 Summer 2012 Erica Saenz and Maria Anna Taylor Carolina Corkill and Stephen Wells Goldie da Costa Anabel Rodriguez, Erika Guin, Madison Shaft