

Jorge Eugenio Vidal

Curriculum Vitae

Present Position: Assistant Professor

Hubert Department of Global Health
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RSPH website: http://www.sph.emory.edu/departments_centers/gh/faculty_and_staff/index.php

Research gate: https://www.researchgate.net/profile/Jorge_Vidal2/?ev=hdr_xprf

Citizenship: Mexico

Permanent resident of the United States of America (I-551)

Adjunct professional appointments

2009-Present. Visiting Researcher, Respiratory Pathogens Branch, Centers for Disease Control and Prevention (CDC), Atlanta, GA

2012-Present. Associate faculty member, program in Population Biology Ecology and Evolution (PBEE), Graduate Division of Biological and Biomedical Sciences (GDBBS), Emory University.
http://www.biomed.emory.edu/PROGRAM_SITES/PBEE/Adjunctfaculty.html

2013-Present. Associate Faculty Member, Graduate Program in Medical Sciences, University of Sinaloa School of Medicine. Sinaloa Mexico. <http://medicina.uas.edu.mx/?p=99&o=9>

Education and Training

2009-Present. Assistant Professor. Hubert Department of Global Health, Rollins School of Public Health, Emory University. Mentor: Dr. Keith P. Klugman.

2006-2009. Post-Doctoral Fellow. Department of Microbiology and Molecular Genetics, University of Pittsburgh School of Medicine. Pittsburgh PA, USA. Mentor: Dr. Bruce A. McClane.

2006 PhD. Cellular Microbiology. Department of Cell Biology, Center for Research and Advanced Studies (Cinvestav-IPN). Mexico City, Mexico. Mentor: Dr. Fernando Navarro-Garcia.

2001 MSc. Microbiology (**Honors**). Department of Microbiology National School of Biological Sciences (ENCB-IPN), Mexico City, Mexico. Mentor: Dr. Silvia Giono-Cerezo.

1999 BSc. Chemistry, Pharmacology and Biology (**Honors**). Autonomous University of Puebla (BUAP), Puebla, Mexico.

Awards and honors

1. Honorific mention for research in bacterial pathogenesis. 34th Mexican Meeting of Microbiology, Cancún, Mexico, Aug 27-29, 2004.
2. Award for excellence in bacterial pathogenesis research. Meeting of the Biological Science, CINVESTAV. Mexico City, Mexico. Jan, 21, 2005.
3. Awarded with a *Corporate Activities Student Travel Grant* to assist to the ASM 105th General Meeting. Jun 5-9, 2005, Atlanta Georgia, USA.
4. Member of the Tabasco State System of Researcher (SEI), Council of Science and Technology (CCYTET), Tabasco, Mexico. 2005-Present.
5. Awarded with a *Corporate Activities Student Travel Grant* to attend the ASM 45th ICAAC. Dec 16-19, 2005, Washington DC, USA.
6. National Investigator (Level-1), National System of Researchers (SNI), National Council of Science (CONACyT), Mexico. 2007-Present.
7. Awarded with an ASM General Meeting Post Doctoral Minority Travel Grant to attend the ASM 107th General Meeting, May 21-25, 2007 Toronto, Canada.
8. Awarded with an ASM General Meeting Post Doctoral Minority Travel Grant to attend the ASM 108th General Meeting, Jun 1-5, 2008 Boston, MA, USA.
9. Recognized for outstanding mentoring service by the ASM Minority Mentoring Program during 2008, 2009 and 2010.
10. Awarded with an ASM General Meeting Post Doctoral Minority Travel Grant to attend the ASM 109th General Meeting, May 17-21, 2009 Philadelphia, PA, USA.
11. Scientific artwork (electron micrograph of biofilms grown on lung cells) was chosen for the March 2013 issue of Trends in Microbiology.
12. Scientific artwork (electron micrograph of pneumococcal biofilms grown on a bioreactor) was chosen for the cover of the April issue of Infection and Immunity, American Society for Microbiology.
13. Associate Editor, Journal of Microbiology and Experimentation. Appointed by April 2014.
14. Member of the editorial board of *Infection and Immunity*, inducted by Professor Ferric C. Fang (Editor in Chief) for three-year terms, January 2015-2018.
15. Member of the editorial board of EC Microbiology. Appointed by December 2015.

Professional positions and experience

1996-1998. Laboratory Assistant, Department of Clinical Microbiology, Specialized Advisors for Clinical Laboratories. Puebla, Mexico.

2001-2002. Laboratory Head, Laboratory of Clinical Diagnostic and Microbiological Analysis. Tabasco, Mexico

2001-2002. Assistant Professor. University of Tabasco School of Medicine, Tabasco, Mexico.

Memberships in professional and scientific societies

1997-2001. National Confederation of Mexican Clinical Laboratories

1999-2001. Mexican Society of Tropical Medicine

1999-Present. Mexican Society for Microbiology (AMM)

2001-Present. American Society for Microbiology (ASM)

2009-Present. Infectious Diseases Society of America (IDSA). Nominated by Dr. Keith P. Klugman.

Grants: past support

1. Pre-doctoral scholarship (\$12,000), 1999-2001, National Council of Science, Government of Mexico.

2. PhD scholarship (\$54,000), 2002-2006, National Council of Science, Government of Mexico.

3. Post-doctoral fellowship (\$25,000). 2008-2009. National Council of Science, Government of Mexico.

4. Title: Expression of *S. pneumoniae* virulence genes during human disease.

Sponsor(s): Atlanta Clinical Translational Science Institute (ACTSI), 05/2011-04/2012

Role: Principal Investigator

Budget: \$30,000.

The goal of this project is to investigate the expression of *S. pneumoniae* virulence genes in the nasopharynx of healthy children and children with pneumococcal pneumonia.

5. Title: Impact of PCV 7 on Nasopharyngeal Carriage of Vaccine Type Pneumococci in Peru

Sponsor: Pfizer (1/01/2012-07/31/2013)

Role: **Principal Investigator**

Budget: \$356,299

As PCV7 and now PCV13 are rolled out globally, it is imperative that Pfizer Vaccines have access to data which show the impact of these vaccines in the poorest parts of the world where the burden of vaccine preventable pneumococcal disease is highest. There are few effectiveness data available from South America outside of the excellent hospital based studies in Uruguay and no data to date on impact on carriage in remote rural areas.

6. Title: Gold standard for molecular detection and quantification of pneumococcal serotypes: Development of quantitative assays for pneumococcal serotypes.

Sponsor(s): Bill and Melinda Gates Foundation (01/2011-05/2014).

Role: **Principal Investigator**

Budget: \$427,117.

This study will develop the technology to identify and quantify all known *Streptococcus pneumoniae* serotypes by quantitative PCR for the adjudication of new multiplexed diagnostic platforms. This highly sensitive technology, including a set of probes and primers for each serotype, will then be made available for researchers as a reference method for global pneumococcal detection.

Grants: Current support

1. Title: Molecular detection and quantification of pneumococcal serotypes in the nasopharynx of children: worldwide evaluation of the pneumococcal vaccine efficacy.

Sponsor(s): Bill and Melinda Gates Foundation (01/2014-12/2015).

Role on grant: **Principal Investigator**

Emory budget: \$345,826.00

To establish the most appropriate microbiological methodology to support the use of pneumococcal carriage studies for monitoring PCV impact and serotype replacement in low-income countries. My laboratory is developing qPCR assays for all known serotypes.

2. Title: Detection and quantification of *S. pneumoniae* strains in the nasopharynx of adults with community-acquired pneumonia treated with Solythromycin or placebo (CE01-300, Oral formulation).

Role on grant: **Principal Investigator**

Sponsor: Cempra Pharmaceuticals (05/2012-12/2014). **A NCE has been recently obtained through Dec 2015.**

Budget: \$253,170.

Detection and quantification of *S. pneumoniae* strains in the nasopharynx of adults with community-acquired pneumonia treated with Solithromycin or placebo. Global clinical trial currently in phase 3.

3. Title: Detection and quantification of *S. pneumoniae* strains in the nasopharynx of adults with community-acquired pneumonia treated with Solythromycin or placebo (CE01-301, IV formulation).

Sponsor: Cempra pharmaceutical (11/2013-12/2015). **Based on the progress and expenses made so far this study has the potential to obtain a NCE through Dec 2016 which will cover 50% effort for the PI.**

Role on grant: **Principal Investigator.**

Budget: \$334,763.

Detection and quantification of *S. pneumoniae* strains in the nasopharynx of adults with community-acquired pneumonia treated with Solithromycin or placebo. Global clinical trial currently in phase 3.

4. Title: Pneumococcal Nasal Colonization and Wood Smoke Exposure: A Human Exposure Study.

Sponsor: Bill and Melinda Gates Foundation (07/2013-12/2014).

Role: **Principal Investigator**

Budget: 212,872.50

This project will utilize molecular technology to quantify bacterial load of *S. pneumoniae*, *H. influenzae*, *M. catarrhalis*, *S. aureus* and *N. meningitidis* in the nasopharynx of volunteer adults exposed to controlled particles of woodsmoke.

5. Title: Evaluating the impact of maternal influenza vaccination for nasopharyngeal colonization of *S. pneumoniae* and *S. aureus*.

Sponsor: Bill and Melinda Gates Foundation (01/2011-12/2014).

Role: **Principal Investigator of subcontract to Emory**

Budget: 212,872.50

This project utilizes molecular technology, single-plex and duplex reactions, to quantify bacterial load of *S. pneumoniae* and *S. aureus* in the nasopharynx of children whose mothers were vaccinated against influenza virus during pregnancy.

6. Title: Systems biological analysis of innate and adaptive responses to vaccination.

Sponsor: NIH, U19AI090023-01, 07/2011-08/2015

Role on grant: **Co-I** (PI-Pulendran)

Budget: \$3,213,141.

The goal of this project is to identify early gene signatures to predict later immune responses. This project will determine the extent to which such an approach will have broad utility in predicting the immunogenicity of different vaccines.

7. Title: Understanding pneumococcal evolution to evade vaccination in developing countries through whole genome sequence analysis.

Sponsor: Bill and Melinda Gates Foundation. 10/2011-10/2016

Role: **Co-I** (PI-Breiman)

Budget: \$4,985,537

This project will sequence *S. pneumoniae* strains isolated pre- and post-PCV7 vaccination to identify the evolution and gene arrangement of strains that have persisted in the human population.

8. Title: “In vitro antibacterial assessment of extract PM 13-309 against *Streptococcus pneumoniae*”

Role on grant: **Principal investigator** 10/2014-03/2015

Sponsor: Bionorica (<http://english.bionorica.de/>)

Budget: \$28,000.

We are evaluating antimicrobial activity of PM13-309 against pneumococcal biofilms made on human pharyngeal cells.

9. Title: Imaging *Streptococcus pneumoniae* biofilm consortiums made by vaccine serotypes on human pharyngeal cells.

Sponsor: Emory+Children’s Pediatric Research Center. 04/2014-12/2014

Role on grant: **Principal investigator**

Budget: \$2000

My laboratory is developing molecular technology to image, and ultimately identify, pneumococcal vaccine serotypes when bacterial consortia are produced on human pharyngeal and lung cells.

10. Title: “Population Genetics & Evolution of Antibiotic Resistant Bacteria” (PI: Levin, B)

Supplement under the specific program **“Recruitment and Retention to Enhance Diversity”** to support a postdoc belonging to underrepresented minority groups, Dr. Jennifer Concepcion-Acevedo.

Role on grant: **Co-I (co-Mentor for Jeny’s postdoc training and research program)**

Sponsor: NIH

Budget: \$70,000.

Grants: Pending support

1. Title: Biomarkers to identify Children with Pneumonia (*BiChiP* project).

Role: **Principal Investigator at Emory, PI consortium D’Acromont.**

Sponsor: Bill and Melinda Gates Foundation.

Emory budget: \$358,578.

2. Title: “Population Dynamics of *Streptococcus pneumoniae* Vaccine Serotypes on Human Pharyngeal Cells”

Role on grant: **Principal investigator. Resubmitted July 2014 (Impact score first round 32).**

Sponsor: NIH

Budget: \$ 426,200.

The goal of this proposal is to understand population dynamics of *Streptococcus pneumoniae* (Sp) strains when they colonize the human nasopharynx.

3. Title: Methylation of *P. aeruginosa* EF-Tu and Its Impact on Physiology and Pathogenesis

NIH

Role on grant: Co-PI Goldberg (PI)

The goal of this Research Grant is to determine the mechanisms responsible for the synthesis and regulation of the addition of three methyl groups to lysine 5 of EF-Tu from *Pseudomonas aeruginosa* that acts as an adhesin molecule for this pathogen. The long-term goal of this project will be to develop specific inhibitors of these processes or vaccines based on this modified protein.

Grants: collaborator

1. Title: A bacterial sensing system for mucus dynamics in the gut.

Role: Collaborator (PI: Eric Gilbert, Department of Biology, Georgia State University)

Sponsor: NIAID-NIH (R21)

Peer Reviewed Publications

1. **Vidal, J. E.** and F. Navarro-García. **2006.** Efficient Translocation of EspC Into Epithelial Cells Depends on Enteropathogenic *Escherichia coli* and Host Cell Contact. *Infection and Immunity*, **74:2293-2303.**
2. Navarro-García, F., Canizalez-Roman, A., Burlingame KE, Teter, K and **J. E. Vidal.** **2007.** Pet, a Non-AB Toxin, is Transported and Translocated into Epithelial Cells by a Retrograde Trafficking Pathway. *Infection and Immunity*. **75(5):2101-2109.**
3. Navarro-García, F., Canizalez-Roman, A., **Vidal, J. E.** and M. I. Salazar. **2007.** Intoxication of Epithelial Cells by Plasmid-Encoded Toxin Requires Clathrin-Mediated Endocytosis. *Microbiology*, **153: 2828-2839.**
4. **Vidal, J. E.,** Giono-Cerezo, S., Ribas-Aparicio, R. M., Enríquez-Rincón, F. and P. Figueroa-Arredondo. **2007.** *Vibrio cholerae* O1 Strains of Different Ribotypes Have Similar *hlyA* RFLP Patterns but Different Vacuolating Ability. *American Journal of Infectious Diseases*, **3(2):98-109.**
5. **Vidal, J. E.,** Canizalez-Roman, A., Gutierrez-Jiménez J. and F. Navarro-García. **2007.** Molecular Pathogenesis, Epidemiology and Diagnosis of Enteropathogenic *Escherichia coli* (EPEC). *Salud Pública de México*, (Public health in Mexico). **49(5):376-386.**
6. Sayeed, S., Uzal, F. A., Fisher, D. J., Saputo, J., **Vidal, J. E.,** Fernandez-Miyakawa, M. E., Chen, Y., Gupta, P., Rood, J. I. and B. A. McClane. **2008.** Beta Toxin is Essential for the Virulence of *Clostridium perfringens* Type C Disease Isolate CN3685 in a Rabbit Ileal Loop Model. *Molecular Microbiology*, **67(1):15-30.** **A figure from this paper was chosen by the editors as the journal cover.**
7. **Vidal, J. E.** and F. Navarro-García. **2008.** EspC Translocation Into Epithelial Cells by Enteropathogenic *Escherichia coli* Requires a Concerted Participation of Type V and III Secretion Systems. *Cellular Microbiology*. **10(10):1975-86.** **This paper was highlighted as “of outstanding interest”, for its far-reaching implications, in a recent review published by Current Opinion in Microbiology (12:101-109).**
8. **Vidal, J. E.,** McClane, B.A., Saputo, J., Parker, J. and F. A. Uzal. **2008.** Effects of *Clostridium perfringens* Beta- Toxin (CPB) on the Rabbit Small Intestine and Colon. *Infection and Immunity*. **76(10):4396-404.**
9. **Vidal, J. E.,** Enríquez-Rincón, F., Giono-Cerezo, S., Ribas-Aparicio, R. M., and P. Figueroa-Arredondo. **2009.** Culture Supernatants from *V. cholerae* O1 El Tor Isolated from Different Geographic Origins Induce Cell Vacuolation and Cytotoxicity. *Salud Pública de México*, (Public health in Mexico). **51(1):39-47.**
10. **Vidal, J. E.,** Chen, J., Li, J. and B. A. McClane. **2009.** Use of an EZ-Tn5-based Random Mutagenesis System to Identify a Novel ToxinR Locus in *Clostridium perfringens* Strain 13. *PLoS ONE*. **Jul 14;4(7):e6232.**
11. **Vidal, J. E.,** Ohtani, K., Shimizu, T., and B. A. McClane. **2009.** Contact with Enterocyte-like Caco-2 Cells Induces Rapid Upregulation of Toxin Production by *Clostridium perfringens* Type C Isolates. *Cellular Microbiology*. **11(9):1306-28.**

12. Uzal, F.A., Saputo, J., Sayeed, S., **Vidal, J. E.**, Fisher, D.J., Poon, R., Adams, V., Fernandez-Miyakawa, M., Rood, J.I. and B.A. McClane. **2009**. Development and Application of New Mouse Models to Study the Pathogenesis of *Clostridium perfringens* Type C Enterotoxemias. *Infection and Immunity*. 77(12):5291-9.
13. Filho, E. J, Carvalho, A. U, Assis, R. A, Lobato, F. F, Rachid, M. A, Carvalho, A. A, Ferreira, P. M, Nascimento, R. A, Fernandes, A. A, **Vidal, J. E.** and F. A., Uzal. **2009**. Clinicopathological Features of Experimental *Clostridium perfringens* Type D Enterotoxemia in Cattle. *Veterinary Pathology*. 46(6):1213-20.
14. Uzal, F.A., **Vidal, J. E.**, Gurjar, A.A. and B. A., McClane. **2010**. Effects of *Clostridium perfringens* Toxins on Animals. *The Open Toxinology Journal*. 3:24-42.
15. Ma, M., **Vidal, J. E.**, Saputo, J., McClane, B.A. and F. A., Uzal,. **2011**. The VirS/VirR Two-Component System Regulates the Anaerobic Cytotoxicity, Intestinal Pathogenicity and Enterotoxemic Lethality of *Clostridium perfringens* Type C Isolate CN3685. *mBIO*. 2(1). pii: e00338-10.
16. Worrell, C., Xiao, N., **Vidal, J. E.**, Chen, L. and J. Remais. **2011**. Field Detection of *Schistosoma japonicum* Cercariae in Environmental Water Samples by Quantitative PCR. *Applied and Environmental Microbiology*. 77(6):2192-5.
17. Li, J., Chen, J., **Vidal, J. E.** and B. A. McClane. **2011**. The Agr-Like Quorum-Sensing System Regulates Sporulation and Production of Enterotoxin and Beta2 Toxin by *Clostridium perfringens* Type A Non-Food-Borne Human Gastrointestinal Disease Strain F5603. *Infection and Immunity*. 79(6):2451-9.
18. **Vidal, J. E.**, Ludewick, H.P., Kunkel, R., Zhäner, D. and K.P. Klugman. **2011**. The LuxS-Dependent Quorum-Sensing System Regulates Early Biofilm Formation by *Streptococcus pneumoniae* Strain D39. *Infection and Immunity*. 79(10):4050-60.
19. **Vidal, J. E.**, Ma, M., Saputo, J., Uzal, F. A. and B. A. McClane. **2012**. Evidence that the Agr-like Quorum-Sensing System Regulates the Toxin Production, Cytotoxicity and Pathogenicity of *Clostridium perfringens* Type C Isolate CN3685. *Molecular Microbiology*. 83(1):179-94.
20. Chien, Y-W., **Vidal, J. E.**, Grijalva, C.G., Bozio, C., Edwards, K.M., Williams, J.V., Griffin, M.R., Verastegui, H., Hartinger, S.M., Gil, A.I., Lanata, C.F. and K. P. Klugman. **2013**. Density interactions among *Streptococcus pneumoniae*, *Haemophilus influenzae* and *Staphylococcus aureus* in the nasopharynx of young Peruvian children. *Pediatric Infectious Diseases Journal*. Jan;32(1):72-7.
21. Shak, J.R., **Vidal, J.E.** and K.P. Klugman. **2013**. Influence of bacterial interactions on pneumococcal colonization of the nasopharynx. *Trends in Microbiology*. 21(3):129-35.
22. **Vidal, J.E.**, Howery, K. E., Ludewick, H., Nava, P. and K. P. Klugman. **2013**. Quorum-Sensing Systems LuxS/Autoinducer 2 and Com Regulate *Streptococcus pneumoniae* Biofilms in a Bioreactor with Living Cultures of Human Respiratory Cells. *Infection and Immunity*. 81(4):1341-53.
23. Canizalez-Roman, A., Gonzalez-Nuñez, E., **Vidal, J. E.**, Flores-Villaseñor, H. and N. León-Sicairos. **2013**. Prevalence and antibiotic resistance profiles of diarrheagenic *Escherichia coli* strains isolated from food items in northwestern Mexico. *International Journal of Food Microbiology*. 164:36-45.
24. Grijalva, C., Griffin, M.R., Edwards, K.M., Williams, J.V., Gil, A., Verastegui, H., Hartinger, S., **Vidal, J.E.**, Klugman, K.P. and C. F. Lanata. 2013. The study of respiratory pathogens in andean children. *International Journal of Epidemiology*. 43(4):1021-30.
25. Javier Gutierrez-Jimenez, Maria Guadalupe del Carmen Torres-Sanchez, Leamsi Paola Fajardo-Martinez, Maria Adelina Schlie-Guzman, Lorena Mercedes Luna-Cazares, Alma Rosa Gonzalez-Esquince, Salvador Guerrero-Fuentes, and **J. E. Vidal**. **2013**. Malnutrition and the Presence of

Enteroparasites in Children from the Poorest Municipalities of Mexico. *J Infect Dev Ctries.* 7(10):741-7.

26. Sakai, F., Talekar, S., Klugman, K.P. and **J. E. Vidal.** 2013. Expression of *S. pneumoniae* virulence factors in the nasopharynx of children. *PLoS ONE.* 8(6):e67147.
27. Shak, J. R., Ludewick, H., Sakai, F., Howery, K., Paton, J. P., Klugman, K. P. and **J. E. Vidal.** 2013. A novel role for the *Streptococcus pneumoniae* toxin pneumolysin in the assembly of biofilms. *mBio* 4(5). doi:pii: e00655-13.
28. Grijalva, C. G., Griffin, M. R., Edwards, K. M., Williams, J. V., Gil, A., Verastegui, H., Hartinger, S., **Vidal, J. E.**, Klugman, K. P., and C. F. Lanata. 2014. The role of influenza and parainfluenza infections in pneumococcal acquisition among young children. *Clin Infect Dis.* 58(10):1369-76.
29. Talekar, S., Klugman, K. P., Chochua S., Quave, C. and **J. E. Vidal.** 2014. Bactericidal activity and anti-biofilm effects of the natural botanical product 220D-F2 against *S. pneumoniae* strains. *In pres PLoS ONE.* 9(6):e98829.
30. Dong, W., McGee, L., Klugman, K. P., and **J. E. Vidal.** 2014. Molecular mechanism of resistance to Linezolid by *S. pneumoniae* strains isolated in the USA. *Antimicrobial Agents and Chemotherapy.* 58(4):2459-62.
31. León-Sicairos N, Angulo-Zamudio UA, **Vidal JE**, López-Torres CA, Bolscher JG, Nazmi K, Reyes-Cortes R, Reyes-López M, de la Garza M, Canizalez-Román A. 2014. Bactericidal effect of bovine lactoferrin and synthetic peptide lactoferrin chimera on *Streptococcus pneumoniae* and the decrease of *luxS* gene expression. *Biometals*, published ahead of print.
32. Shak JR, Cremers AJ, Gritzfeld JF, de Jonge MI, Hermans PW, **Vidal JE**, Klugman KP, Gordon SB. 2014. Impact of experimental human pneumococcal carriage on nasopharyngeal bacterial densities in healthy adults. *PLoS One.* Jun 10;9(6):e98829.
33. Navarro-Garcia, F., Serapio-Palacios, A., **Vidal, J.E.**, Salazar, M. I., and G. Tapia-Pastrana. 2014. EspC promotes epithelial cell detachment by EPEC via sequential cleavages of a cytoskeletal protein and then focal adhesion proteins. *Infect Immun.* 2014 Jun;82(6):2255-65
34. Javier Gutiérrez-Jiménez, Flor Cassassuce, Liliana Martínez-de la Cruz, José Alexis De Aquino-López, Juan Antonio Hernández-Shilón, María Adelina Schlie-Guzmán, **Vidal JE.** 2014. Evaluation of A Point-Of Use Water Purification System (Llaveoz) in a Rural Setting of Chiapas, Mexico . *Journal of Microbiology and Experimentation.* 06/2014; 1(3):00015.
35. Keenan, J. D., Sahl, I., McGee, L., Cevallos, V., **Vidal, J. E.**, Gebre, T., Tadesse, Z., Emerson, P. M., Gaynor, B. D., Lietman, T. M., and K. P. Klugman. 2013. The distribution of nasopharyngeal pneumococcal serotypes before and after mass azithromycin distributions for trachoma. *In press.*
36. Keenan, J. D., Klugman, K. P., McGee, L., **Vidal, J. E.**, Cevallos, V., Gebre, T., Tadesse, Z., Emerson, P. M., J. H. Jorgensen, Gaynor, B. D., and T. M. Lietman . 2013. Evidence for clonal expansion after antibiotic selection pressure: nasopharyngeal pneumococcal multilocus sequence types before and after mass azithromycin treatments. *In press.*
37. Sakai, F, Chochua, S, Satzke, C., Dunne EM, Mulholland K, Klugman KP, and **JE Vidal.** Single-plex molecular Quantitative Assays for the Detection and Quantification of Pneumococcal Serotypes. *Submitted.*
38. **Vidal, J. E.**, Shak J. R. and A. Canizalez-Roman. 2014. The hemolysin *C. perfringens* alpha toxin (CPA) is essential for the building of the biofilm matrix. *Submitted.*
39. Canizalez-Roman, A., Gonzalez-Nuñez, E., Flores-Villaseñor, H., **Vidal, J. E.**, Muro-Amador, S. and N. Leon-Sicairos. 2014. Enteropathogenic and Enteroaggregative *Escherichia coli* are the most prevalent pathotypes among adults and children with acute diarrhea in Northwestern Mexico *In preparation.*

40. Matzkin, G. L., and **J. E. Vidal**. 2014. *Streptococcus pneumoniae* affects survival of *Staphylococcus aureus* in *in vitro* mixed-species biofilms formed on human pharyngeal cells. *In preparation*.

Oral presentations

1. Invited speaker. **National University Autonomous of Mexico (UNAM)**, Mexico city, November 2003. Talk: “Role of EspC an autotransporter toxin in EPEC virulence”
2. Invited speaker. **University of Queretaro**, Queretaro, Mexico, October 2005. Talk: “How pathogenic bacteria cause diarrhea”
3. Invited speaker. **Department of Cellular Microbiology, Max Planck Institute for Infection Biology, Berlin Germany**, April 2006. Talk: “Translocation of the EspC autotransporter toxin from EPEC requires the type three secretion system”
4. Invited speaker. **Department of Microbiology, Molecular Genetics and Biochemistry, University of Pittsburgh School of Medicine**, May 2006. Talk: “EspC an autotransporter toxin secreted by EPEC requires the TTSS to get entry into infected cells”
5. Abstract selected for oral presentation at the Pittsburgh Bacterial Meeting, **Duquesne University, Pittsburgh PA**, March, 2008. Title: Up-regulation of Transcription and Secretion of *C. perfringens* Type C Toxins in the Presence of Caco-2 cells.
6. Abstract selected for oral presentation at the Pittsburgh Bacterial Meeting, **Duquesne University, Pittsburgh PA**, March, 2009. Title: Enterocytes induce Rapid Upregulation of Toxin Production by *Clostridium perfringens* Type C Isolates.
7. Invited speaker. **University of Pittsburgh** Post Doctoral Association (UPPDA). Pittsburgh PA, July 2009. Talk: “The role of beta toxin and regulatory molecules in the pathogenesis of *C. perfringens* type C isolates”.
8. Invited speaker. **Hubert Department of Global Health, Rollins School of Public Health, Emory University** Atlanta GA, July 2009. Talk: “The main role of beta toxin in *C. perfringens* type C induced disease”.
9. Speaker at the MicroRIP (Research In Progress) seminar series. **Department of Microbiology Emory University**, Atlanta GA, June 9th 2010. Talk: Part I. Virulence regulation of *C. perfringens* strains and Part II. *Streptococcus pneumoniae* molecular detection and virulence gene expression in humans.
10. Invited speaker, **Department of Microbiology and Immunology, Emory University**, Atlanta GA. October 18th 2010. Talk: “Toxin production and regulatory molecules during *C. perfringens* type C disease”.
11. Invited speaker. Graduate program in **Population Biology Ecology and Evolution, Emory University**. Sep 9th 2011. Talk: “A bacterial signaling system (Agr-like) controlling virulence of *C. perfringens*”.
12. Abstract entitled Early Biofilms produced by *Streptococcus pneumoniae* strain D39 are regulated by the LuxS/AI-2 quorum sensing system **chosen for a talk within the plenary session “Streptococcus pneumoniae biology and evolution”** at the International symposium of pneumococci and pneumococcal diseases (ISPPD-8). March 2012, Iguazu Falls, Brazil.
13. Invited speaker. **Department of Cell Biology, Center for Research and Advanced Studies (Cinvestav)**, Mexico city. June 05, 2012. Activation of bacterial communication systems in the presence of human cells: the case of *C. perfringens* and *S. pneumoniae*.

14. Invited speaker. **University of Sinaloa School of Medicine**, Sinaloa Mexico. June 07, 2012. Quorum sensing mechanism activated during intestinal infection by *C. perfringens* and pneumonia by *S. pneumoniae*.
15. Invited Speaker. **Department of Biology, Georgia State University**, Georgia State Biology graduate seminar series. September 21, 2012. Seminar Production and Regulation of *S. pneumoniae* biofilms in human respiratory cells.
16. Invited speaker. **Bill and Melinda Gates Foundation**, Seattle WA Feb 10, 2013. Development of a qPCR array to identify and quantify *S. pneumoniae* serotypes in human samples.
17. Invited speaker. Talk: Nasopharyngeal carriage of the pneumococcus: Methods of detection and new molecular approaches. April 12 2013. Investigators meeting **Cempra pharmaceutical. Barcelona, Spain.**
18. Abstract entitled "Population dynamics of *Streptococcus pneumoniae* vaccine serotypes on human pharyngeal cells" **chosen for a talk within the plenary session** "The Promiscuous Pneumococcus-Evolution and Biology" at the 9th International symposium of pneumococci and pneumococcal diseases (ISPPD-9). March 2014, Hyderabad, India.
19. Invited speaker. Talk: Pneumococcal carriage and disease. August 22, 2014. Lunch and Learn session at **Cempra Pharmaceuticals**, Chapel Hill North Carolina.
20. Global carriage of the pneumococcus and new molecular tools to study the pneumobiome. December 2014. **Rollins School of Public Health, Emory University.**

Peer reviewed abstracts (poster presentations)

1. **Vidal, J. E.**, Giono-Cerezo, S., Enríquez-Rincón, F. and P. Figueroa-Arredondo. "Efecto Vacuolizante del Gen *hlyA* en Cepas de Diferente Ribotipo de *V. cholerae* O1" Latinamerican Association of Microbiology, 15th Latinamerican Meeting of Microbiology, April 9-13, 2000. Mérida Yucatán, Mexico.
2. **Vidal, J. E.**, Giono-Cerezo, S., Enríquez-Rincón, F. and P. Figueroa-Arredondo. "Vacuolating Activity of *hlyA* Genes from Different Ribotypes of *Vibrio cholerae*" ASM 102nd General Meeting May 19-23, 2002. Salt Lake City, Utah, USA.
3. **Vidal, J. E.** and F. Navarro-García. "Efficient Internalization of EspC into Epithelial Cells Depends on EPEC-host Cell Contact" ASM 105th General Meeting Jun 5-9, 2005. Atlanta Georgia, USA.
4. **Vidal, J. E.** and F. Navarro-García. "Type III Secretion System (TTSS) Helps to Translocate EspC Autotransporter Protein from Enteropathogenic *Escherichia coli* (EPEC) to the Eukaryotic Cell" ASM, 45th ICAAC December 16-19, 2005. Washington DC, USA.
5. Navarro-García, F. and **J. E. Vidal**. Type III and Type V Secretion Systems Cooperation for Cytosolic Translocation of EspC from Enteropathogenic *Escherichia coli*. 6th international symposium on Shiga toxin (Verotoxin) producing *E. coli* infection, October 29-November 1, 2006. Melbourne Victoria, Australia,
6. **Vidal, J. E.** and B. A. McClane. 2007. Up-regulation of *C. perfringens* Beta Toxin (CPB) Transcription and Secretion in the Presence of CaCo-2 Cells. Pittsburgh Bacterial Meeting 2007, Duquesne University, Pittsburgh Pennsylvania, USA.
7. Sayeed, S., Fisher, D. J., Miyakawa, M., Uzal, F. A., **Vidal, J. E.** and B. A. McClane. Construction of an Intron-Based Toxin Genes Knockout Mutants in *Clostridium perfringens* Type C Isolates. ASM 107th General Meeting, May 21-25, 2007. Toronto, Canada.

8. **Vidal, J. E.** and B. A. McClane. 2007. Up-regulation of Transcription and Secretion of *C. perfringens* Type C Toxins in the Presence of CaCo-2 cells. 2007 ASM 107th General Meeting, May 21-25, Toronto, Canada.
9. **Vidal, J. E.**, Saputo, J., Uzal, F. A. and B. A. McClane. 2008. Pathologic Effects of *Clostridium perfringens* Beta Toxin (CPB) in Rabbit Intestinal Loops. ASM 108th General Meeting, Jun 1-5, Boston MA, USA.
10. Uzal, F. A., Sayeed, S., Fisher, D. J., Saputo, J., **Vidal, J. E.**, Rood J. I. and B. A. McClane. 2008. Beta toxin is Essential for the Virulence of *Clostridium perfringens* Type C Isolate in Experimental Caprine Enterotoxemia. Anaerobe Meeting 2008, June 24-27, 2008. Long Beach, California.
11. **Vidal, J. E.**, Ohtani, K., Shimizu, T. and B. A. McClane. 2009. Contact with Enterocyte-like Caco-2 cells Induces Rapid Upregulation of Toxin Production by *Clostridium perfringens* Type C Isolates. ASM 109th General Meeting, May 17-21, 2009. Philadelphia, PA, USA.
12. Sayeed, S., Uzal, F. A., Saputo, J., Fisher, D. J., **Vidal, J. E.**, McClane, B. A., and J. I. Rood. 2009. Lethality of *Clostridium perfringens* Type C Isolate CN3685 and Isogenic Toxin Mutants in the Mouse Intraduodenal Enterotoxemia Model. ASM 109th General Meeting, May 17-21, 2009, Philadelphia, USA.
13. Canizalez-Roman, A., Gonzalez-Nuñez, E. R., Picos-Cardenas, V. J., Zazueta-Beltran, J., **Vidal, J. E.** and N. Leon-Sicairos. 2009. Enteropathogenic (EPEC) and Enteroaggregative (EAEC) *Escherichia coli* are the Most Prevalent Pathotype Among *E. coli* Strains in Food Items at Northwest of Mexico. ASM 109th General Meeting, May 17-21, 2009, Philadelphia, PA, USA.
14. **Vidal, J. E.**, Ohtani, K., Shimizu, T., Saputo, J., Uzal, F. A. and B. A. McClane. 2009. Contact with Enterocytes Causes *virS/virR*-mediated Upregulation of Beta Toxin Production by *C. perfringens* Type C Isolates. CloPath, International Meetings on the Molecular Biology and Pathogenesis of Clostridia. Rome, Italy, October 2009.
15. Uzal, F.A., Saputo, J., Sayeed, S., **Vidal, J. E.**, Fisher, D.J., Poon, R., Adams, V., Fernandez-Miyakawa, M.E., Rood, J. I. and B. A. McClane. 2009. Mouse Models for Studying *Clostridium perfringens* Type C Infections. CloPath, International Meetings on the Molecular Biology and Pathogenesis of Clostridia. Rome, Italy, October 2009.
16. **Vidal, J. E.**, Saputo, J., Ma, M., Uzal, F. A. and B. A. McClane. The Two-Component Regulatory System *VirS/VirR* Controls *Clostridium perfringens* Type C Virulence in Animal Models of Infection. ASM 110th General Meeting, May 2010. San Diego, CA, USA.
17. **Vidal, J. E.**, Ludewick, H. P., Zahner, D. and K. P. Klugman. The *luxS*-Dependent Quorum Sensing System Controls *Streptococcus pneumoniae* Biofilm Formation. ASM 111th General Meeting, May 20-24, 2011. New Orleans, LA, USA.
18. Ma, M., **Vidal, J. E.**, Saputo, J., Uzal, F. A., Chen, J. and B. A. McClane. Agr Quorum-Sensing System Regulates the Cytotoxicity and Pathogenicity of *Clostridium perfringens* Type C Isolate CN3685. ASM 111th General Meeting, May 20-24, 2011. New Orleans, LA, USA.
19. F.A. Uzal, B.A. McClane, J. Rood, J. Saputo, J.P. Garcia, J. Caserta, S. Robertson, M. Li, **Vidal, J. E.**, A. Shrestha and V. Adams. Animal Models to Study *Clostridium perfringens* Diseases. CloPath, International Meetings on the Molecular Biology and Pathogenesis of Clostridia. October 2011, Iowa USA.
20. Grijalva, C. G., Griffin, M. R., Williams, J. V., Lanata, C. F., Gil, A., Verastegui, H., **Vidal, J. E.**, Hartinger, S., Klugman, K. P. and K. M. Edwards. The role of acute viral infections on pneumococcal acquisition in young Andean children. International symposium of pneumococci and pneumococcal diseases (ISPPD-8). March 2012, Iguazu Falls, Brazil.
21. **Vidal, J. E.**, Ludewick, H. P., and K. P. Klugman. Early Biofilms produced by *Streptococcus pneumoniae* strain D39 are regulated by the *LuxS/AI-2* quorum sensing system. International

- symposium of pneumococci and pneumococcal diseases (ISPPD-8). March 2012, Iguazu Falls, Brazil.
22. **Vidal, J. E.**, Howery, K., Nava, P., Ludewick, H. P., and K. P. Klugman. *Streptococcus pneumoniae* produces biofilms in a bioreactor with human respiratory cells that are regulated by two quorum sensing systems, Com and LuxS/AI-2. 6th ASM Conference on Biofilms, Sep 29-October 04, Miami FL.
 23. Shak, J., Ludewick, H. P., Sakai, F., K. P. Klugman **and J. E. Vidal**. *Streptococcus pneumoniae* virulence factor pneumolysin is essential for assembly of pneumococcal biofilms. 6th ASM Conference on Biofilms, Sep 29-October 04, Miami FL.
 24. **Vidal J. E.**, Sakai, F., Daiichi, M., Talekar, S., and K. P. Klugman. Expression of *S. pneumoniae* virulence factors in the nasopharynx of children. ASM 113th General Meeting, May 28-21, 2013. Denver CO, USA.
 25. Navarro-Garcia, F., Serapio-Palacios, A., Tapia-Pastrana, G., Salazar, M. I., **Vidal, J. E.**, and O. Amezcua. EspC from EPEC initially cleaves fodrin and then focal adhesion proteins to cause cell death. ASM 113th General Meeting, May 28-21, 2013. Denver CO, USA.
 26. **Vidal JE**, Sakai F, Concepcion-Acevedo J, Shak JR, Chochua S, and Klugman KP. Population dynamics of *Streptococcus pneumoniae* vaccine serotypes on human pharyngeal cells. 9th International symposium of pneumococci and pneumococcal diseases (ISPPD-9). March 2014, Hyderabad, India.
 27. Sakai F, Talekar SJ, Lanata CF, Grijalva CG, Griffin MR, Edwards KM, Klugman KP, and **Vidal JE**. Quantification of transcripts of *Streptococcus pneumoniae* virulence genes in the nasopharynx of healthy children. 9th International symposium of pneumococci and pneumococcal diseases (ISPPD-9). March 2014, Hyderabad, India.
 28. **Vidal JE**, Canizalez-Roman A, and Klugman KP. The CpAL quorum sensing system regulates production of hemolysins CPA and PFO to build *C. perfringens* biofilms. ASM 114th General Meeting, May 17-20, 2014. Boston MA, USA.
 29. Hanke CR, Chochua S, Pletz MW, Hornberg C, Grijalva CG, Edwards KM, Griffin MR, Verastegui H, Gil AI, Lanata CF, Klugman KP, **Vidal JE**. Impact of the pneumococcal conjugate vaccine (PCV7) on serotype distribution and antibiotic resistance of strains isolated from the nasopharynx of healthy children in Peru. ASM 114th General Meeting, May 17-20, 2014. Boston MA, USA.
 30. **Vidal JE**, Chochua S, Sakai F, Chancey S, Stephens D, and Klugman KP. Recombination and Population Dynamics of *Streptococcus pneumoniae* Vaccine Serotypes on Human Pharyngeal Cells. ASM 114th General Meeting, May 17-20, 2014. Boston MA, USA.

Teaching and Mentoring

Courses taught

1. University of Tabasco, Tabasco Mexico. School of Medicine 2001-2002. Courses taught: Biochemistry and General Microbiology.

Invited lectures and instructor

1. Center for Research and Advanced Studies (Cinvestav), Mexico City Mexico. November 1999-January 2000. Workshop instructor: Molecular methods in cell microbiology.
2. Hospital No. 27, Mexican Institute for Social Security (IMSS). September-December 1999. Workshop instructor: Medical bacteriology and microbiology diagnostic.
3. Invited lecture: Mechanism of internalization and damage of bacterial pathogens. March 2004. Course: Biology of the parasitism. Department of pathology, Center for Research and Advanced Studies (Cinvestav-IPN). Mexico City, Mexico.

4. Invited lecture: Virulence factors of *V. cholera* O1 and non-O1. March 2005. Course: Biology of the parasitism. Department of Pathology, Center for Research and Advanced Studies (Cinvestav-IPN). Mexico City, Mexico.
5. Invited lecture: Mechanisms of antibiotic resistance of bacterial biofilms. Taught every year since February 2010. Course: GH 558 (2) Global Issues in Antimicrobial Resistance. Hubert Department of Global Health, Rollins School of Public Health, Emory University. Atlanta GA, USA.
6. Lecture: Current research in *S. pneumoniae* biofilms and mechanisms of virulence regulation. September 2011. Course IBS 545r Intro to Faculty Research. Department of Microbiology and Immunology, Emory University, School of Medicine. Atlanta GA, USA.

Mentor for undergraduate and graduate students

1. Ms. Sareena Gillani. Undergraduate student. Emory University. September 2010-May 2011. Project: Development of an *in vitro* cell culture-based model for studying bacterial biofilm formation.
2. Mr. Shazaib Jiwani. Undergraduate student, Bachelor of Science, Department of Biology, Oglethorpe University. May 2011-August 2011. Project: Molecular scenario of *C. perfringens* toxin secretion during biofilm growth on diabetic patients.
3. Ms. Grishma A. Kharod, MPH 2011. Global Epidemiology, Rollins School of Public Health, Emory University. September-November 2009. Project: Laboratory methods in molecular epidemiology.
4. Ms. Stacey-Ann Miller, MPH 2011. Global Health: Infectious Diseases. Rollins School of Public Health. February-May 2010. Project: Laboratory methods in molecular epidemiology. **Currently MD student, University of the West Indies-Mona campus, Faculty of Medical Sciences, Kingston, Jamaica.**
5. Ms. Danielle Schaeffner. MPH candidate, 2012. Department of Epidemiology, Rollins School of Public Health, Emory University. September 2010-May 2011. Project: Design new strategies to detect *S. pneumoniae* serotypes.
6. Mr. Tyler Landrith. MPH candidate, 2012. Department of Epidemiology, Rollins School of Public Health, Emory University. September 2010-May 2012. Project: Molecular tools for the study of *C. perfringens* cell biology. **Currently: PhD student, UC Riverside.**
7. Mr. Wei “Castino” Dong. MPH candidate 2013. Department of Epidemiology, Rollins School of Public Health, Emory University. August 2011-Still in lab. Project: Molecular mechanism of resistance to Linezolid by *S. pneumoniae* strains isolated in the USA.
8. Dr. Daiichi Morii. MPH candidate 2013. Department of Health Policy & Management, Rollins School of Public Health, Emory University. October 2011-Still in lab. Project: Detection and expression of *S. pneumoniae* virulence genes in the nasopharynx of healthy children.
9. Mr. Kyu-Han Lee. MPH candidate 2014. Department of Epidemiology, Rollins School of Public Health, Emory University. August 2012-still in lab. Project: Preparation of a library of antibiotic resistance genes to generate specific mutations in *S. pneumoniae* strains.
10. Mr. Grant A. Walter. MPH candidate 2014. Rollins School of Public Health, Emory University. August-December 2012. Project: Evaluation of competence on clinical isolates of *S. pneumoniae* strains.
11. **Mr. Joshua Shak, MD, PhD student. Program in Population Biology Evolution and Ecology (PBEE), Graduate Division of Biological and Biomedical Sciences. Emory University. July-**

September 2010. Lab rotation. Project: Regulation of biofilm formation in *C. perfringens* gangrene-producer strains.

12. **Ms. Gayatri Sekar, PhD student. Program in Population Biology Evolution and Ecology (PBEE)**, Graduate Division of Biological and Biomedical Sciences. Emory University. February-2011- May 2011. Lab rotation. Project: Development of biosensors for LuxS-generated quorum sensing molecules of *S. pneumoniae* strains.
13. **Ms. Rebekah Kunkel, PhD student. Program in Population Biology Evolution and Ecology (PBEE)**, Graduate Division of Biological and Biomedical Sciences. Emory University. November 2010-March 2011. Lab rotation. Project: The role of the LuxS quorum sensing system on biofilms produced by *S. pneumoniae* strains.
14. **Mrs. Yu-Wen Chien, PhD 2011. Department of Epidemiology, Rollins School of Public Health, Emory University.** Sep 2009-May 2011. Project: Molecular identification and quantification of *S. pneumoniae*, *Staphylococcus aureus* and *Haemophilus influenzae* in the nasopharynx of healthy children.
15. **Ms. Megan Light. Undergraduate Student**, Emory University. January 2012-May 2013. Project: Field study in Africa of maternal influenza immunization.
16. **Ms. Sanet Steyn. MD, PhD student candidate.** Emory University. January 2012-May 2013. Project: Field study in Africa of maternal influenza immunization.
17. **Ms. Kristen Howery, PhD student. Department of Microbiology and Immunology, Emory University.** January 2012-June 2013. Project: Production and quantification of pneumococcal biofilms on human-derivative pharyngeal and lung cells.
18. **Ms. Paula Diane Strassle, MPH candidate 2013. Department of Epidemiology, Rollins School of Public Health, Emory University.** Sep 2012-May 2013. Project: Design and validation of molecular assays to detect and quantify *M. catarrhalis* strains in human samples.
19. Gideon Matzkin, Georgia State University. Project: Colonization and co-persistence in the nasopharynx of *Staphylococcus aureus* and *Streptococcus pneumoniae*. September 2012-June 2013 and May 2014-Present.
20. Kayoko Shioda, DVM, MPH student. Feb-June, 2013. Project: Multispecies biofilms produced on the nasopharynx.
21. Nate Jacobs. PhD student, PBEE program. Nov 2013-March 2014.
22. Catherine Bozio. PhD student, M2M fellow. Nov 2013-Present.
23. Silvia Dimitrova. PhD student, MMG program. Dec 2013-March 2014.

Master students: Thesis advisor and co-advisor

1. Ms. Caitlin Worrell, MPH 2010. Global Environmental Health. Department of Environmental and Occupational Health Rollins School of Public Health, Emory University. Thesis: Assessing the effectiveness of a q-PCR protocol to detect *Schistosoma japonicum* cercariae in environmental water samples from Sichuan Province, China. **Currently: ASPH/CDC Allan Rosenfield Global Health Fellow at Centers for Disease Control and Prevention.**
2. Ms. Catherine Bozio, MPH 2011. Global Epidemiology, Rollins School of Public Health Emory University. Thesis: Analysis of Risk Factors of Pneumococcal Carriage in Cajamarca, Peru. **Currently: PhD student, Department of Epidemiology, Rollins School of Public Health, Emory University.**
3. Ms. Ida Alem Sahlu, MPH 2011. Global Health, Rollins School of Public Health Emory University. Thesis: Characterization of nasopharyngeal pneumococcal resistance after mass

azithromycin treatments in Ethiopia. **Currently: PhD student, Public Health Program of Brown University's Division of Biology and Medicine.**

4. Ms. Raymond Puerini, MPH 2011. Epidemiology, Rollins School of Public Health Emory University. Thesis: Development of qPCR-based technology to quantify *S. pneumoniae* serotypes in healthy children. **Currently: Public Health Preparedness Professional, Medical Countermeasure Coordinator at Philadelphia Department of Public Health.**
5. Ms. Rebekah Kunkel, Msc 2011. Program in Population Biology Evolution and Ecology (PBEE), Graduate Division of Biological and Biomedical Sciences. Emory University. Thesis: The role of the *luxS* quorum-sensing system in *Streptococcus pneumoniae* biofilms. **Currently: ORISE Fellow at Centers for Disease Control and Prevention.**
6. Mr. David Alfa, MPH 2014. Global Health, Rollins School of Public Health Emory University. Thesis: Population Dynamics of Nasopharyngeal Bacterial Pathogens in Febrile Tanzanian Children. **Currently: Applicant to an ORISE Fellowship from the Centers for Disease Control and Prevention.**

PhD committees

1. Mr. Joshua Shak, MD, PhD student. Program in Population Biology Evolution and Ecology (PBEE), Graduate Division of Biological and Biomedical Sciences. Emory University. Thesis: A quantitative exploration of pneumococcal population dynamics. **Co-mentor. Graduated in November 2013.**
2. Mr. Michael Mina, MD, PhD student. Program in Population Biology Evolution and Ecology (PBEE), Graduate Division of Biological and Biomedical Sciences. Emory University. Thesis: Molecular mechanisms of synergistic interaction between *S. pneumoniae* and influenza virus in pneumococcal disease. Graduated March 2014.
3. Mr. Saul Canizales Muñoz, PhD student. Programa regional del Noroeste para el doctorado en biotecnología. Facultad de Ciencias Químico Biológica, Universidad Autónoma de Sinaloa. Thesis: Effects of the bovine lactoferrin and synthetic peptides lactoferricin 17-30, lactoferrampin 265-284 and quimeric lactoferrin on *Streptococcus pneumoniae* biofilms, in vitro e in vivo.
4. Mr. Lucio Hernandez Diaz. PhD student. Programa regional del Noroeste para el doctorado en biotecnología. Facultad de Ciencias Químico Biológica, Universidad Autónoma de Sinaloa. Thesis: Serologic and molecular characterization of environmental and clinical isolates of *Vibrio parahaemolyticus* strains and the role of the type VI secretion system in the virulence.
5. Mrs. Catherine Bozio. PhD student. Epidemiology, Rollins School of Public Health Emory University. Thesis: TBN. Catherine is a **recipient of a fellowship from the M2M program (molecules to mankind) at Emory University.**

Mentor for post-doctorates

1. Dr. Adrian Canizalez-Roman (visiting scientist). Project: The role of *C. perfringens* hemolysins (PLC and PFO) on the formation of biofilms. August-September 2011.

2. Dr. Herbert Ludewick. Post-doc. Projects: 1) Synergistic relationship between respiratory viruses and secondary bacterial infections. *S. pneumoniae*: dynamics of colonization and 2) Regulation of *S. pneumoniae* biofilms on respiratory epithelial cells. March 2010-July 2012.
3. Dr. Fuminori Sakai. Post-doc. Project: Development of a gold standard for molecular detection and quantification of pneumococcal serotypes. October 2011-Present.
4. Dr. Sharmila Talekar. Post-doc. Project: Bactericidal activity and anti-biofilm effects of the natural botanical product 220D-F2 against *S. pneumoniae* strains. March 2012-Present.
5. Dr. Sopio Chochua. Post-doc. Project: Molecular analysis of populations of bacterial respiratory pathogens in the human nasopharynx during disease and health. July 2012-Present.

Services and research related activities

Grant review for:

1. National Council of Science and Technology (Conacyt), Mexico. For study section on bacterial pathogenesis.
2. Emory University, University Research Committee (URC) and the Atlanta Clinical & Translational Science Institute (ACTSI), study section in biological sciences.

Editorial board:

1. Infection and Immunity, 2015-2018.
2. EC Microbiology.
3. Journal of Microbiology and Experimentation.

Manuscript review for:

1. Applied and Environmental Microbiology (AEM), American Society for Microbiology (ASM).
2. Infection and Immunity (IAI), American Society for Microbiology (ASM).
3. Virulence, Landes Biosciences, Massachusetts, USA.
4. Journal of Clinical Microbiology (JCM), American Society for Microbiology (ASM).
5. Antimicrobial Agents and Chemotherapy (AAC), American Society for Microbiology (ASM).
6. Clinical and Vaccine Immunology (CVI), American Society for Microbiology (ASM).
7. Thorax, BMJ Publishing Group Ltd and British Thoracic Society.
8. PLoS ONE, Public Library of Science (PLOS).
9. Canadian Journal of Microbiology, NRC Research Press, Canadian Science Publishing.
10. Infection, Genetics and Evolution, Elsevier Inc.
11. Current Microbiology. Springer publishing.
12. Microbes and Infection, Elsevier Inc.
13. EC Microbiology.
14. Journal of Microbiology and Experimentation.

Non-professional activities

1. Head Soccer Coach; recreational soccer league, under 8 and 12 age groups (U8 and U12), Triumph Youth Soccer Association (TYSA), DeKalb County Georgia. Seasons: Fall 2011, Spring 2012. Fall 2012. Spring 2013 (U12 Champions). Fall 2013 (U12 Champions). Spring 2014 and Fall 2014 (U12 division).
2. Member: Pack 129 Tucker GA, Boy Scouts of America. Since Fall 2010.