October 5, 2018

CURRICULUM VITAE

Charles Darkoh, Ph.D.
Associate Professor (Tenured)
Center for Infectious Diseases
Department of Epidemiology, Human Genetics, and Environmental Sciences
University of Texas School of Public Health

Citizenship: United States of America

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A. EDUCATION

Graduate Education

Ph.D. (Molecular Pathology, Microbiology and Molecular Genetics, The University of Texas Health Science Center, University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, Houston, Texas, 2012, Primary advisor/mentor - Herbert L. DuPont, M.D.; Co-advisor – Heidi B. Kaplan, Ph.D.

Master of Science, Biotechnology, Stephen F. Austin State University, Nacogdoches, Texas, 2008.

Master of Science, Biology, University of Bremen, Bremen, Germany, 2001.

Undergraduate Education

Bachelor of Science, Zoology/Biological Sciences (Honors), University of Ghana, Legon, Ghana, 1999.

Other Career Development Training

I. Mentoring Works, The University of Texas Health Science Center, University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences - A workshop designed by the Wisconsin Center for Education Research at The University of Wisconsin to enhance mentoring skills, 2016.

II. How to Communicate with Tact and Professionalism - A Fred Pryor Career Track Seminar designed to improve communication and listening skills, September 15-16, 2015.

B. ACADEMIC APPOINTMENTS

Associate Professor (Tenured), The University of Texas Health Science Center, School of Public Health, Department of Epidemiology, Human Genetics and Environmental Sciences, Center for Infectious Diseases, Houston, Texas, 2017-present.

Regular Faculty Member, University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, Microbiology and Infectious Diseases Program, 2015-present.

Assistant Professor (Tenure-Track), The University of Texas Health Science Center, School of Public Health, Department of Epidemiology, Human Genetics and Environmental Sciences, Center for Infectious Diseases, Houston, Texas, 2012-2017.

Graduate Research Assistant, The University of Texas Health Science Center, School of Public Health, Center for Infectious Diseases, Houston, Texas, 2008-2012.

Graduate Research Assistant**,** Stephen F. Austin State University, Nacogdoches, Texas, 2006-2008.

C. RESEARCH

(I) Patents

1. DuPont, H. L., Z. D. Jiang, E. Brown, and **Charles Darkoh.** Application No. 11745200.3-2103, PCT/US2011025170. Filed February 17, 2011, entitled Methods of treating infection.
2. **Darkoh, Charles**, L. M. Lichtenberger, E. J. Dial, and H. L. DuPont. U.S. Publication 20120196887 (Application No. 13/364,589 filed February 2, 2011), entitled Methods and compositions for improved rifamycin therapies.
3. **Darkoh, Charles**, H. B. Kaplan, and H. L. DuPont. U.S. Application No. 61/491,726 filed May 31, 2011, entitled Methods and Compositions for the detection of functional *Clostridium difficile* toxins.

4. **Darkoh, Charles,** H. L. DuPont, and Heidi B. Kaplan. U. S. Application No. 61/673961. Filed July 20, 2012, entitled “Methods and compositions to enhance the detection of *Clostridium difficile* toxins”.
5. **Darkoh, Charles**, U.S. Provisional Patent Application No. *62/247,570,* Filed October 28, 2015, entitled Methods and compositions to inhibit *Clostridium* toxins.
6. **Darkoh, Charles,** U.S. Provisional Patent Application No. 62/473,675, Filed March 20, 2017, entitled “Antimicrobials composition and co-agents to treat resistant infections”.

(II) Peer-Reviewed Publications

1. Ajami, Nadim, H. Koo, **C. Darkoh**, R. L. Atmar, P. C. Okhuysen, Z. D. Jiang, J. Flores, H. L. DuPont. 2010. Characterization of norovirus-associated traveler's diarrhea. Clinical Infectious Diseases. 15; 51(2):123-30. PMID: 20540620.
2. **Darkoh, C.**, M. El-Bouhssini, M. Baum, and B. Clack. 2010. Characterization of a prolylendoprotease from *Eurygaster integriceps* puton (Sunn pest) infested wheat. Archives Insect Biochemistry and Physiology; 74 (3):163-178. PMID: 20568295.
3. **Darkoh, C.**, L. M. Lichtenberger, N. Ajami, E. J. Dial, Z. D. Jiang, and H. L. DuPont. 2010. Bile acids improve the antimicrobial effect of rifaximin. Antimicrobial Agents and Chemotherapy, 54 (9): 3618-3624. PMID: 20547807.
4. **Darkoh, C.**, H. B. Kaplan, and H. L. DuPont. 2011. Harnessing the glucosyltransferase activities of *Clostridium difficile* for functional studies of toxins A and B. Journal of Clinical Microbiology, 49(8):2933-41.
5. **Darkoh, C**., and H. L. DuPont. 2011. Unravelling the role of host endocytic proteins in pedestal formation during enteropathogenic *E. coli* infection. Journal of Infectious Diseases, 667-667. DOI: 10.1093/infdis/jir391.
6. **Darkoh, C.**, H. L. DuPont, H. B. Kaplan. 2011. A novel approach for the detection of toxigenic *Clostridium difficile* from stool samples. Journal of Clinical Microbiology. 49(12): 4219-4224.
7. **Darkoh, C.**, Eric L. Brown, Heidi B. Kaplan, Herbert L. DuPont. 2013. Bile Salt Inhibition of Host Cell Damage from *Clostridium difficile* Toxins. PLoS One 8(11): e79631. doi:10.1371/journal.pone.0079631.
8. **Darkoh, C**., L. Comer, G. Zewdie, S. Harold, N. Snyder, H. L. DuPont. 2014. Chemotactic Chemokines are Important in the Pathogenesis of Irritable Bowel Syndrome. PLoSOne. 9(3):e93144. doi: 10.1371/journal.pone.0093144.
9. **Darkoh, C.,** Bradley Turnwald, Zhi-Dong Jiang, Hoonmo L. Koo, Kevin Garey, and Herbert DuPont. 2014. Colonic Immunopathogenesis of *Clostridium difficile* Infections. Clinical and Vaccine Immunology. 21(4):509-17. doi: 10.1128/CVI.00770-13.

10. Yandamuri, R.C., Gautam, R., **Darkoh C**., Vanitha Dareddy, V., El-Bouhssini, M., and Clack, B.A. 2014. Cloning, Expression, Sequence Analysis and Homology Modeling of the Prolyl Endoprotease from *Eurygaster integriceps Puton.* Insects. *5*, 762-782, doi:10.3390/insects5040762.

11. **Darkoh, C**., H. L. DuPont, S. J. Norris, and H. B. Kaplan. 2015. Toxin Synthesis by *Clostridium difficile* is Regulated through Quorum Signaling. mBio. 6:e02569-02514, doi: 10.1128/mBio.02569-14. PMID: 25714717.

12. **Darkoh**, **C.**, C. Chappell, C. Gonzales, and P. Okhuysen. 2015. A Rapid and Specific Method for the Detection of Indole in Complex Biological Samples. Applied and Environmental Microbiology. 81(23):8093-7, doi: 10.1128/AEM.02787-15. Epub 2015 Sep 18. PMID: 26386049.

13. Chappell, C., **C. Darkoh**, L. Shimmin, N. Farhana, K. Do-Kyun, P. Okhuysen, and J. Hixson. 2016. Fecal Indole as a Biomarker of Susceptibility to *Cryptosporidium* Infection. Infection and Immunity. 84(8):2299-306. doi: 10.1128/IAI.00336-16. PMID: 27245413.

14. **Darkoh, C**., C. Odo*, and H.L. DuPont. 2016. Accessory Gene Regulator-1 Locus is Essential for Virulence and Pathogenesis of *Clostridium difficile*. mBio. 7(4): e01237-16. doi:10.1128/mBio.01237-16. PMID: 27531912

15. *Tsai, I.H., D.E. Graves, W. Chan, **C. Darkoh**, M. Lee, L. A. Pompeii. 2017. Environmental barriers and social participation in individuals with spinal cord injury. Rehabilitation Psychology. 62(1):36-44. doi: 10.1037/rep0000117. PMID: 28045281.

16. *Heather, T. E., **C. Darkoh**, E. McHugh, and E. Brown. 2017. The *Clostridium difficile* Quorum-Sensing Molecule Alters the *Staphylococcus aureus* Toxin Expression Profile. International Journal of Antimicrobial Agents. 49(3):391-393. doi: 10.1016/j.ijantimicag.2017.01.001. PMID: 28111286.

17. **Darkoh, C**. and H. L. DuPont. 2017. The accessory gene regulator-1 as a therapeutic target for *C. difficile* infections. Expert Opinion on Therapeutic Targets. 21(5):451-453. doi: 10.1080/14728222.2017.1311863. PMID: 28338356.

18. **Darkoh, C**., M. Deaton*, H.L. DuPont. 2017. Nonantimicrobial Drug Targets for *Clostridium difficile* infections. Future Microbiol. 12: 975-985. doi: 10.2217/fmb-2017-0024. PMID: 28759258.

19. Okyere, Ama*, D. Bishoff*, M. Oyaro, N. Ajami, and **C. Darkoh**. 2018. Analysis of Fish Commonly Sold in Local Supermarkets Reveals the Presence of Pathogenic and Multidrug-Resistant Bacterial Communities. Microbiol Insights. doi: 10.1177/1178636118786925. eCollection 2018. PMID: 30038503.

20. Oyaro MO, K. Plants-Paris*, D. Bishoff*, P. Malonza, C. Gontier, H.L. DuPont, **C. Darkoh**. 2018. High rate of *Clostridium difficile* among young adults presenting with diarrhea at two hospitals in Kenya. Int J Infect Dis. 74:24-28. doi: 10.1016/j.ijid.2018.06.014. PMID: 29960098.

(IV) Book Chapters

1. **Darkoh, C.** and Odo*, Chioma. 2016. The *Clostridium difficile* Toxins: Mechanism of Action and Immunopathogenesis: In Protein Purification: Principles and Trends. Chapter 11, IConcept Press Ltd. ISBN 978-1-922227-40-9.
2. **Darkoh, C**., and Asiedu, G.A. 2015. Quorum Sensing Systems in Clostridia, p. 133-154. *In* V. C. Kalia (ed.), Quorum Sensing vs Quorum Quenching: A Battle with No End in Sight. Springer India. ISBN 978-81-322-1982-8.
3. **Darkoh, C.,** 2011. Isolation, purification, and characterization of gluten-specific enzyme from Sunn pest, *Eurygaster integriceps*. MS thesis. ProQuest. 106 pages. (ISBN-10: 1243420138, ISBN-13: 978-1243420138).
4. **Darkoh, C.** and Antwi-Boasiako, Kwame Badu. 2007. "Benin." *In* Global Perspectives on the United States: A Nation by Nation Survey: Volume 1, pp. 50-53. Edited by David Levinson and Karen Christensen, Great Barrington, MA: Berkshire Publishing Group.

*** = Student mentee**

(V) Invitations and Abstract Presentations

Peer Reviewed Published Abstracts

1. **Darkoh, C.**, L. M. Lichtenberger, N. Ajami, E. J. Dial, Z. D. Jiang, and H. L. DuPont. **2010**. Bile acids improve the bioavailability and bacteriostatic effect of rifaximin. Gastroenterology, Volume 138, Issue 5, Pages S-5.
2. Ajami, Nadim, H. Koo, **C. Darkoh**, R. L. Atmar, P. C. Okhuysen, Z. D. Jiang, J. Flores, H. L. DuPont. 2010. Characterization of norovirus-associated traveler's diarrhea. Gastroenterology, Volume 138, Issue 5, Pages S-629.

Presentations

1. Poster talk, ASM Microbe 2017, General Meeting of the American Society for Microbiology, (June 1-5, 2017). *Clostridium difficile* Modulates the Gut Microbiota by Inducing the Expression of Indole, an Inter-Kingdom Signaling and Antimicrobial Molecule, New Orleans, Louisiana.
2. Poster presentation, ASM Microbe 2017, General Meeting of the American Society for Microbiology, (June 1-5, 2017). *Clostridium difficile* Modulates the Gut Microbiota by Inducing the Expression of Indole, an Inter-Kingdom Signaling and Antimicrobial Molecule, New Orleans, Louisiana.
3. Guest speaker, 4th Annual International Raising C. *difficile* Awareness Conference and Health EXPO (September 20, 2016), Targeting Toxin Production and Toxin Activity as a Novel Non-Antibiotic Therapy for Clostridium *difficile* Infections, Atlanta, Georgia.

4. Invited speaker, Anaerobe 2016 (July 11-16th), Quorum sensing in *Clostridium difficile*, Nashville, Tennessee.
5. Invited speaker, Microbiology and Molecular Genetics Department Seminar Series, University of Texas Medical School (December 3, 2015). Regulating to Wreak Mayhem: The Case of *Clostridium difficile* Toxins, Houston, Texas.
6. 115th General Meeting of the American Society for Microbiology, (May 29-June 3, 2015). Agr Quorum Signaling-Dependent Regulation of *Clostridium difficile* Toxin Production and Pathogenesis, New Orleans, Louisiana.
7. Invited speaker, American Society for Microbiology, Texas Branch-Spring Meeting, (November 6-8, 2014). Uncovering the Role of Quorum Signaling in *Clostridium difficile* Pathogenesis, Houston, Texas.
8. Abstract presentation (October 18 - 21, 2014) American Society for Microbiology 5th ASM Conference on Cell-Cell Communication in Bacteria, Toxin Synthesis by *Clostridium difficile* is Stringently Regulated Through Quorum Signaling, San Antonio, Texas.
9. Guest speaker, Molecular Virology and Microbiology Seminar Series, Baylor College of Medicine, (November 21, 2013), A New Paradigm of *Clostridium difficile* Virulence and Pathogenesis, Houston, Texas.
10. Invited speaker, American Society for Microbiology, Texas Branch-Spring Meeting, (April 6, 2013). A New Paradigm of *C. difficile* Toxin Regulation, New Braunfels, Texas.
11. Texas Medical Center Digestive Diseases Center GI Forum (March 14, 2013). Harnessing the Power of the Community to Wreak Havoc: A New Paradigm of *C. difficile* Toxin Regulation. Baylor College of Medicine, Houston, Texas.
12. Oral presentation (March 19, 2012). Harnessing the Power of the Community to Wreak Havoc: The Case of *Clostridium difficile*. Texas A&M Institute of Biosciences, Houston, Texas.
13. Oral presentation (November 6-9, 2011). Regulation of Toxin Production in *Clostridium difficile*. American Society for Microbiology 4th ASM Conference on Cell-Cell Communication in Bacteria, Miami, Florida.
14. Oral presentation (November 10-12, 2011). Regulation of Toxin Production in *Clostridium difficile*. American Society for Microbiology-Texas Branch, University of Texas at Arlington, Arlington, Texas.
15. Oral presentation (June 28th, 2011). Mechanism of Toxin Production in *Clostridium difficile*. Molecular Basis of Infectious Diseases Training Grant Summer Undergraduates research program. The University of Texas Health Science Center, Houston, Texas.
16. Oral presentation (March 24th, 2011). Detection of Toxigenic *Clostridium difficile* by Harnessing the Glucosyltransferase Activities of its Toxins. Molecular Basis of Infectious Diseases Training Grant Retreat. The University of Texas Health Science Center, Houston, Texas.

17. Oral presentation (May 1-5, 2010). Bile acids improve the antimicrobial effect of rifaximin. American Gastroenterological Association, Digestive Diseases Week, Bile acids improve the bioavailability and bacteriostatic effect of rifaximin, New Orleans, Louisiana.
18. Poster presentation (March 26, 2010): Molecular Basis of Infectious Diseases (MBID) Retreat, Bile acids improve the Bioavailability and Bacteriostatic Effect of Rifaximin, Houston, Texas.
19. Oral presentation (June 30, 2010). Quorum sensing-mediated regulation of toxin production in *C. difficile*. Molecular Basis of Infectious Diseases (MBID) Summer Undergraduate program, Houston, Texas.
20. Poster presentation (April 25, 2008): Bright Ideas Conference, Stephen F. Austin State University, Characterization and purification of prolylendopeptidase from *Eurygaster integriceps,* Nacogdoches, Texas.
21. Poster presentation and Graduate Student Volunteer (February, 2008): Joint 52nd Annual Meeting of the Biophysical Society and 16th IUPAB International Biophysics Congress, Characterization and purification of prolylendopeptidase from *Eurygaster integriceps*, Long Beach, California.

(VI) Research Support

Current Research Support

1. **Title**: Targeting the Toxins: A Novel Non-Antimicrobial Approach to Combat *Clostridium difficile* infections
   Funding agency: NIH-NIAID R01 Grant # R01AI116914
   Goal: Develop a novel non-antibiotic treatment for *C. difficile* infections by targeting both toxin production and toxin activity.
   Project period: June 15, 2015 - May 31, 2020
   Role: Principal Investigator

2. **Title:** Molecular Basis of Infectious Diseases Training Grant
   Funding agency: NIH-INRSA Grant # T32AI055449
   Goal: Train new scientists in microbiological research and current challenges in clinical infectious diseases.
   Project Period: 09/15/2005 – 05/31/2021
   Role: Co-investigator. Principal Investigator(s): Theresa M. Koehler, Ph.D.; Steven J. Norris Ph.D. (contact person)

3. **Title**: The Role of Acyloxyacyl Hydrolase in the Pathogenesis of Irritable Bowel Syndrome
   Funding agency: Gillson-Longenbaugh Foundation
   Goal: Investigate the role of acyloxyacyl hydrolase and genetic alterations in the pathogenesis of irritable bowel syndrome.
   Project period: January 1, 2013- January 1, 2019
   Role: Principal Investigator

4. **Title:** Development of a Novel One-Step Method for Detection and Isolation of Active Toxin-Producing *Clostridium difficile* Strains Directly from Stool Samples.
   Goal: Develop a diagnostic test for *Clostridium difficile* infections.
   Funding agency: University of Texas Pioneer Award
   Project period: November, 2012- September, 2019
   Role: Principal Investigator

Completed Research Support

1. **Title:** Mechanism of *Clostridium difficile* Pathogenesis
   Goal: Investigate the mechanism of toxin synthesis regulation in *Clostridium difficile.*
   Funding agency: University of Texas School of Public Health Prime Award
   Project period: April, 2013 - April, 2014
   Role: Principal Investigator

2. **Title:** Quorum Signaling-Mediated Regulation of *Clostridium difficile* Toxin Production
   Goal: Elucidate the quorum-signaling compound responsible for toxin synthesis regulation in *Clostridium difficile.*
   Funding agency: Texas Medical Center Digestive Diseases Center Pilot/Feasibility Grant
   Project period: February, 2013 - January, 2014
   Role: Principal Investigator

Pending Awards/Applications

1. **Title**: Mutant Library: An Important Tool to Facilitate *Clostridium difficile* Research
   Funding agency: NIH-NIAID R21 Grant #: 1R21AI140216-01A1
   Goal: Develop a *Clostridium difficile* mutant library
   Project period: April 1, 2019 – March 31, 2021
   Role: Principal Investigator
   Direct cost: $275,000.00

2. **Title**: The Role of the Accessory Genes Regulator System in *Clostridium difficile* Physiology and Virulence
   Funding agency: NIH-NIAID R01 Grant #: 1R01 AI139764-01A1
   Goal: Characterize *Clostridium difficile* virulence-associated genes to uncover their roles in pathogenesis
   Project period: April 1, 2019 – March 31, 2024
   Role: Principal Investigator
   Direct cost: $1,758,612.00
3. **Title**: Enteric Infectious Diseases Research and Training Program in Kenya
   Funding agency: NIH-NIAID R01 Grant #: 1D43TW011283-01

Goal: Infectious disease training program in Kenya
Project period: April 1, 2019 – March 31, 2024
Role: Principal Investigator
Direct cost: $1,177,341.00

4. **Title**: Emergency and Everyday Use of Elastomeric Respirators in Healthcare
   Funding agency: CDC
   Goal: Evaluate disinfecting methods for elastomeric respirators for use by healthcare workers.
   Project period: March 1, 2019 – August 31, 2021
   Role: Co-Investigator
   Direct cost: $483,648.00

5. **Title**: Molecular Epidemiology and Pathogenesis of *Clostridium difficile* in Kenya
   Funding agency: NIH-NIAID R01 Grant #: 1R01AI143549-01
   Goal: Characterize the epidemiology and pathogenesis of *Clostridium difficile* infections in Kenya.
   Project period: March 1, 2019 – February 1, 2024
   Role: Co-Investigator
   Direct cost: $675,000.00

Submitted but not funded

1. **Title**: Indole-Mediated Protection of Host Cells from Cryptosporidium Infection
   Funding agency: NIH-NIAID R21 Grant #:
2. **Goal:** Examine the role of indole in Cryptosporidium Infections
   Project period: September 1, 2018 – August 31, 2020
   Role: Principal Investigator
   Direct cost: $275,000.00

2**. Title**: Optimizing Novel Anti-virulence Drugs for the Treatment of *Clostridium difficile* Infections
   Funding agency: NIH-NIAID R21 Grant # RAI121608A
   Goal: Develop anti-virulence drugs for the treatment of *Clostridium difficile* infections.
   Project period: December 1, 2015 - November 30, 2020
   Role: Principal Investigator
   Direct cost: $1,175,000.00

3. **Title**: Regulation of *Clostridium difficile* Toxin Synthesis and Pathogenesis
   Funding agency: NIH-NIAID R01 Grant # RAI119033A
   Goal: To elucidate the mechanisms of regulation of *Clostridium difficile* toxin synthesis
   Project period: April 1, 2015 - March 31, 2020
   Role: Principal Investigator
   Direct cost: $1,250,000.00

4**. Title**: Mechanism of *Clostridium difficile* Toxin Production and Pathogenesis
Funding agency: NIH-NIAID DP5 Grant # DOD017939A
Goal: To elucidate the mechanisms of regulation of *Clostridium difficile* toxin synthesis
Project period: September 1, 2013 - August, 2018
Role: Principal Investigator
Direct cost: $1,250,000.00

5. Title: Novel Non-Antibotic Approach to Combat Clostridium Difficile Infections
Funding agency: NIH-NIAID R21 Grant # RAI113414A
Goal: To evaluate non-antibiotic compounds for the treatment of *Clostridium difficile* infections
Project period: April 1, 2015 - March 31, 2017
Role: Principal Investigator
Direct cost: $275,000.00

D. ACADEMIC AND PROFESSIONAL HONOR/AWARDS/SCHOLARSHIPS

Faculty Awards

1. **Carnegie African Diaspora Fellowship. 2017.**
2. **R. Palmer Beasley, M.D. Faculty Award for Innovation** (2015). University of Texas School of Public Health. Recognizes faculty members who exemplify innovative research in the field of public health.

Graduate student awards

1. **Dean's Research Scholarship Award (**2012). University of Texas Medical School at Houston, Texas. Recognizes senior graduate students in good academic standing, who have achieved distinction in biomedical research.
2. **Robert W. and Pearl Wallis Knox Charitable Foundation Scholarship** (2012). University of Texas Graduate School of Biomedical Sciences. Honors a promising student in good academic standing whose research is in the area of infectious diseases in humans.
3. **Thomas F. Burks Scholarship for Academic Merit** (2011-2012). A competitive university-wide scholarship awarded for excellence and academic achievement. University of Texas Health Science Center at Houston.
4. **S. E. Sulkin Medical Microbiology Award** (2011-2012). First Place in oral presentation and outstanding scientific achievement, The Texas Branch of American Society for Microbiology. University of Texas at Arlington, Arlington, Texas.

5. **UTHealth Golf Tournament Scholarship** (2011). University of Texas of Health Science Center. A competitive award given to graduate students with good academic standing.
6. **American Society for Microbiology Travel Award** (2011). Oral presentation at 4th ASM Conference on Cell-Cell Communication in Bacteria, November 6-9, 2011, Miami, Florida.
7. **UNCF/MERCK Graduate Science Research Fellowship Award** (2011). UNCF/MERCK Science Initiative, a nationally competitive award to recognize and support outstanding African Americans pursuing studies in research in the biological, chemical, and engineering sciences.
8. **The Ralph H. and Ruth J. McCullough Foundation Fellowship Award.** Honors an outstanding doctoral graduate student whose novel research possesses a high potential to impact biomedical sciences in the area of infectious diseases (2010-2011). The University of Texas Health Science Center, Houston, Texas.
9. **Molecular Basis of Infectious Diseases** (MBID) Training Grant award (2009-2011). A competitive National Institutes of Health sponsored predoctoral training fellowship that supports outstanding predoctoral students in bacterial pathogenesis and molecular basis of infectious diseases. 2009-2011. University of Texas Health Science Center, Houston, Texas.
10. **University of Texas Health Center Student Inter-Council Scholarship**. 2011. A competitive award given to graduate students with good academic standing.
11. Elected member, Beta Beta Beta (Tri Beta) National Biological Honor Society, 2007

Professional Membership

1. Member, The American Society for Microbiology, 2008-present
2. Member, American Association for the Advancement of Science, 2008-present
3. Member, American Gastroenterological Association, 2012-present
4. Member, Biophysical Society, 2006
5. Elected member, Golden Key International Honor Society, 2007

E. TEACHING

1. Laboratory Methods: Applications and Implications to Public Health (PH-2785), University of Texas School of Public Health, Course Director, Twice per year, 2012-present (teaching effort =100%).
2. Public Health Medical Microbiology (PH2805). University of Texas School of Public Health, Course Co-Director, Spring 2017-present (teaching effort = 50%).

3. Pathobiology course, Graduate School of Biomedical Sciences, Guest Lecturer, 2012-Present.
4. Microbial Pathogenesis, Baylor College of Medicine, Molecular Virology and Microbiology Program Course, Guest Lecturer, 2013-present.
5. Topics of Infectious Diseases, University of Texas School of Public Health, Guest Lecturer, 2015-present.
6. Epidemiology I, University of Texas School of Public Health, Guest Lecturer, 2016-present.

F. STUDENT MENTORING

(I) Current Primary Academic Advisees

Ph.D./Dr.Ph. Students

1. Hassan Oubote Sangban, Ph.D. in Epidemiology, Fall 2015- present
2. Arielle Hernandez, Ph.D. in Epidemiology, Fall 2016-present
3. Boomadevi Narendran, Ph.D. in Epidemiology, Fall 2016-present
4. Priscela Perez, Ph.D. in Epidemiology, Fall 2016-present
5. Christina Carstens, Ph.D. in Epidemiology, Fall 2017-present
6. Bekana Tadese, Ph.D. in Epidemiology, Fall 2017-present
7. Dayoung Jung, Dr.PH in Epidemiology, Fall 2016-present
8. William Charles Shropshire, Ph.D. in Epidemiology, Fall 2015- 2018
9. Ezinne Onuoha, Ph.D. in Epidemiology, Spring 2018-present
10. Celso Catumbela, Ph.D. in Biomedical Sciences, Fall 2018-present
11. Fatema Alkhulaifi, Ph.D. in Epidemiology, Fall 2018-present
12. Trish Amboree, Ph.D. in Epidemiology, Fall 2018-present

MS/MPH Students

1. Kimberly Sonia Plants-Paris, MS in Epidemiology, Fall, 2015- present
2. Rotem Magal, MS in Epidemiology, Fall 2016-present
3. Ayesha Mahmood, MS in Biomedical Sciences, Fall 2018-present
4. Magdalena R. Deaton, MPH in Epidemiology, Fall, 2015- present
5. Emily White, MPH in Epidemiology, Fall 2016-present
6. Jessica Lee, MPH in Epidemiology, Fall 2016-present
7. Oluwayemisi Adeyinka Aladejare, MPH in Epidemiology, Spring 2018-present

8. Grace of God Innocent-Utulu, MPH in Epidemiology, Fall 2018-present
9. Anna Beningo, MPH in Epidemiology, Fall 2018-present
10. Shafwanur Rahman, MPH in Epidemiology, Fall 2018-present

(II) Graduated Primary Academic Advisees

Ph.D.

1. Sharath Sherene Esther, Ph.D. in Epidemiology, 2013- 2018, graduated August, 2017
2. Tsai, I-Hsuan, Ph.D. Epidemiology, 2013-2014, graduated December, 2014

MS/MPH

1. Chioma Odo, MS in Biomedical Sciences, Fall 2016-2018, graduated August, 2018
2. Virginia K Lachman, MPH in Epidemiology, Spring, 2016- 2018, graduated May, 2018
3. Ezinne Onuoha, MPH in Epidemiology, Fall 2016-2018, graduated December 2017
4. Beena Vikas Shirole, MPH in Epidemiology, Fall, 2015- 2017, graduated August 2017.
5. Feofanova, Elena Valeryevna, MS in Epidemiology, Fall 2013-2015, graduated August, 2015
6. Adegboyega Olaoluwa Oluwatobi, MPH in Epidemiology, Fall, 2013- 2015, graduated May 2015
7. Akpalu, Yao, MPH in Epidemiology, Fall, 2013- 2015, graduated August 2015
8. Ana Gomez-Rubio, MPH in Epidemiology, Fall 2013- 2015, graduated August 2015

(III) Student Research Mentoring

Current Students

1. Celso Catumbela, Ph.D. in Biomedical Science
   Thesis Title: Mechanism of Oxidative Stress Response in *Clostridium difficile* Pathogenesis
   Role: Thesis Advisor

2. Kimberly Sonia Plants-Paris, MS in Epidemiology

Thesis Title: Oxidative Stress Response in *Clostridium difficile* Strains and its Implication in Pathogenesis
Role: Thesis Advisor

3. Rotem Magal, MS in Epidemiology
   Thesis Title: Understanding the Prevalence and Structure of the Accessory Gene Regulator System in the Genus *Clostridium*
   Role: Thesis Advisor

4. Emily White, MPH in Epidemiology
   Thesis Title: Characterization of Pathogenic Bacteria on Gas Station Pump Handles in Houston, Texas
   Role: Thesis Advisor

Individual Study/Practicum/Culminating Experience/Tutorial

1. Magdalena R. Deaton, MPH in Epidemiology, Fall, 2018
2. Oluwayemisi Adeyinka Aladejare, MPH in Epidemiology, Fall, 2018
2. Jessica Lee, MPH in Epidemiology, Fall, 2018
3. Beena Vikas Shirole, MPH in Epidemiology, Summer 2017
4. Emily White, MPH in Epidemiology, Summer 2017
5. April H. Nguyen, Ph.D. Biomedical Sciences, GSBS Tutorial, Summer 2016
6. Data B. Don-Pedro, MPH in Occupational and Environmental Health, Individual Study, Spring 2016
7. Freida Okyere, MPH in Occupational and Environmental Health, Individual Study, Spring 2016
8. Kimberly S. Paris-Plants, MS in Epidemiology, Individual Study, Fall 2015
9. Ammar Saigal, Individual Study, Fall 2015
10. Yao Akpalu, MPH in Epidemiology, Culminating Experience, Summer 2015
11. Ana M. Gomez-Rubio, MPH in Epidemiology, Culminating Experience, Summer 2015
12. Yao Akpalu, MPH in Epidemiology, Culminating Experience, Spring 2015
13. Ana M. Gomez-Rubio, MPH in Epidemiology, Culminating Experience, Spring 2015
14. Oluwatobi O. Adeboyega, MPH in Epidemiology, Practicum, Fall 2014
15. Ana M. Gomez-Rubio, MPH in Epidemiology, Culminating Experience, Fall 2014
16. Heather T. Essigmann, MPH in Epidemiology, Practicum, Spring 2014
17. Ana M. Gomez-Rubio, MPH in Epidemiology, Practicum, Spring 2014

18. Saroochi Agarwal, Ph.D. in Epidemiology, Individual Study, Fall 2012

Graduated Students with Dissertation/Thesis

1. Chioma Odo, MS in Biomedical Sciences, graduated August, 2018.
   Thesis Title: Characterization of Metronidazole- and Vancomycin-Resistant Clinical Isolates of *Clostridium difficile*
   Role: Thesis Advisor

2. Feofanova, Elena Valeryevna, MS Epidemiology, Graduated August, 2015
   Thesis Title: A Large-scale Candidate Gene Association Study of Blood Pressure Change in Children and Adolescents.
   Role: Academic Advisor/Thesis Committee member

3. Akpalu, Yao, MPH in Epidemiology, Graduated (Summer 2015)
   Thesis: Buruli Ulcer: Insight Into the Epidemiology, transmission, Prevention, and Control
   Role: Thesis Advisor

4. Ana Gomez-Rubio, MPH Epidemiology, Graduated (Summer 2015)
   Thesis: Incidence of Bacterial Tracheitis in Pediatric Patients with Artificial Airways
   Role: Thesis Advisor

Dissertation/Thesis Committee Membership

1. Feofanova, Elena Valeryevna, MS Epidemiology, Graduated August, 2015
   Thesis Title: A Large-scale Candidate Gene Association Study of Blood Pressure Change in Children and Adolescents
   Role: Committee member

2. Heather T. Essigmann, MPH Epidemiology, graduated December, 2015
   Thesis Title: C*lostridium difficile* Quorum Sensing Moleucle on Growth and Virulence Factor Production in S*taphylococcus aureus*
   Role: Committee member

3. Rahman Mohammed, Ph.D. Biostatistics, graduated May, 2015
   Dissertation Title: Sparse Structural Equations and Integrated Genomic and Epigenomic Analysis
   Role: External reviewer

4. Tsai, I-Hsuan, Ph.D. Epidemiology, graduated December, 2014
   Dissertation Title: The Factors for Social Participation in People with Spinal Cord Injury
   Role: Committee member

G. SERVICE TO THE INSTITUTION, SCHOOL, PROFESSION, AND COMMUNITY

(I) Service to the Profession

1. Ad hoc member, Scientific Review Group, Drug Discovery and Mechanisms of Antimicrobial Resistance (DDR) Study Section, National Institutes of Health, June, 2017.
2. Ad hoc member, Review Panel, International Research in Infectious Diseases, National Institutes of Health, November, 2016
3. Reviewer- Research Proposals, Czech Health Research Council, Ministry of Health, Czech Republic, September, 2016-Present.
4. Ad hoc member, Scientific Review Group, Bacterial Pathogenesis Study Section, National Institutes of Health, June, 2016
5. Member, Scientific review board of the Rehabilitation Research and Development Service, Spinal Cord Injury and Neuropathic Pain Panel, U.S. Department of Veterans Affairs, 2015

Peer review

Have reviewed manuscripts for the following journals:

1. PLOS Pathogens
2. Journal of infectious Diseases
3. mSphere
4. BMC Microbiology
5. Clinical Infectious Diseases
6. Infection and immunity
7. Journal of Clinical Microbiology
8. PLOS One
9. Journal of Bacteriology
10. Pathogens
11. Antimicrobial Agent and Chemotherapy

(II) Service to the Institution

1. Member, Radiation Safety Committee, University of Texas Health Science Center, 2012-present

2. Member, Admissions committee, University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, 2016-present
3. Member, Microbiology Program Steering Committee, MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences, 2017-present
4. Member, Academic Standards Committee, University of Texas Graduate School of Biomedical Sciences, 2011-2012

(III) Service to the School

1. Member, Diversity Committee, The University of Texas Health Science Center, School of Public Health, 2018-present
2. Chair, Faculty Diversity Committee, The University of Texas Health Science Center, School of Public Health, 2014-present
3. Poster Judge, The University of Texas Health Science Center, School of Public Health, Student Research Day, March 31, 2016.
4. Poster Judge, The University of Texas Health Science Center, School of Public Health, Student Research Day, April 6, 2017.

(IV) Service to the Community

1. Media interview: Contagion Live
   Title: *Clostridium difficile* infections and pathogenesis
   Date: August 17, 2016

2. Media interview: Boston Globe
   Title: *Clostridium difficile* infections
   Date: August 16, 2016

3. Media interview: Science News
   Title: *Clostridium difficile* infections
   Date: August 12, 2016

4. Media interview: Science Daily
   Title: *Clostridium difficile* infections
   Date: July 22, 2016