

Name	Position Title
Jason A. Rosenzweig	Professor Biology TSU (tenured) Adjunct Associate Professor University of Houston Biology and Biochemistry

Contact Information		
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Education/Training			
Institution	Degree	Year(s)	Field of Study
Florida Atlantic University	B.S.	1998	Microbiology
University of South Florida	Ph.D. student	1999-2000	Microbiology
University of Miami (Miller School of Medicine)	Ph.D.	2006	Microbiology

Honors and Awards

- 1998 Florida Atlantic University's Scholar's award (full tuition scholarship)
- 1999 University of South Florida Graduate Student Fellowship (full tuition scholarship and stipend)
- 2001 University of Miami Graduate Student Fellowship (full tuition scholarship and stipend)
- 2005 Awarded the University of Miami Medical Faculty Association Graduate Student Travel Award (\$750)
- 2006 Runner up for the University of Miami Medical Faculty Association Graduate Student Research Project of the Year (steering committee nominated)
- 2008 Granted full time graduate faculty status at Texas Southern University (TSU)
- 2009 Was awarded 2nd place for best faculty Oral Presentation at TSU's Research Week 2009
- 2009 Featured on Houston channel 39 news twice with regards to microbial growth on shoes story (October 2009 <http://www.39online.com/news/local/kiah-dirtyshoes-story,0,33556.story>) as well as for our NASA STS-129 Atlantis space flight microbiology project in which *E. coli* and *B. subtilis* were flown to space and upon return will be evaluated for morphological and transcriptome profile changes due to space flight (November 2009 <http://www.39online.com/news/local/kiah-experiment-in-space-story,0,7842915.story>).

- 2012 Dean's Leadership Award recipient
- 2012 Award of Appreciation Texas Southern University Research Week
- 2013 College of Science and Technology's 2013 Distinguished Resercher Award recipient (\$1,500)
- 2015 Interviewed by TV producer WAG TV (10/08/2015) for a segment entitled NASA's Unexplained Files describing my astro-microbiology research which appeared on the US Discovery Channel Spring 2016.
- 2016 Cited in a "The Scientist" article (11/18/216) commenting on a recent publication about bacterial starvation stress response during space flight (<http://www.the-scientist.com/?articles.view/articleNo/47553/title/Bacteria-Show-Signs-of-Starvation-in-Space/>)
- 2017 Cited in the "New Scientist" article (05/31/2017) commenting on genomic changes experienced by bacteria under modeled microgravity. (<https://www.newscientist.com/article/2133147-floating-in-microgravity-gives-bacteria-permanent-genetic-boost/>).
- 2018 Texas Southern University Scholarly Research/Creativity Award (aka Researcher of the Year) recipient (\$2,500)
- 2019 Cited in the "New Scientist" article 01/15/2019 commenting on microbial antibiotic resistance in the space environment. (<https://www.newscientist.com/article/2190727-astronauts-travelling-to-the-moon-and-mars-risk-dying-from-superbugs/>)

Certifications

02/2016 Texas Southern University Online Teaching certificate

Teaching Experience

- 01/99-06/99 English tutor at Broward Community College's South Campus
- 08/00-06/01 English tutor at Broward Community College's South Campus
- 01/03-04/03 Taught microbiology lab (MIC301L) at the University of Miami
- 01/06-06/07 Taught microbiology lab (MCB2010L) at Broward Community College
- 08/06-06/08 Taught Microbiology (and lab), Genetics (and lab), Biology I (and lab), Biology for non-majors, and Immunology at Nova Southeastern University Farquhar College of Arts and Science
- 01/07-06/07 Taught Biotechnology I Laboratory at Florida Atlantic University (Davie campus)
- 05/07-06/07 Taught Microbiology lecture and lab at Broward Community College (shortened summer term)
- 08/07-06/08 Mentored 5 directed undergraduate research projects at Nova Southeastern University
- 08/08-present Teaching Microbiology (and lab) at Texas Southern University
- 01/09-present Teaching Biology I at TSU
- 01/09-present Teaching experimental biology at TSU
- 06/09- 07/09 Teach the graduate course Diagnostic Bacteriology
- 08/08-present Mentoring directed undergraduate research projects at Texas Southern

08/08-present University
Mentoring Master's degree student and PhD students research projects

Employment

09/2018-present Professor (Tenured) Microbiology Texas Southern University
10/2014-present Adjunct Associate Professor University of Houston Department of Biology and Biochemistry (non-paying)
09/2014-present Associate Professor (Tenured) Microbiology Texas Southern University
09/13-06/2015 Interim Chair of Environmental and Interdisciplinary Sciences Texas Southern University
08/08-08/31/2014 Assistant Professor (Microbiology) Texas Southern University
08/07-06/08 Assistant Biology Professor Nova Southeastern University Division of Math Science and Technology
08/15/06-05/31/07 Visiting Biology Professor Nova Southeastern University Division of Math Science and Technology
01/07-06/07 Adjunct Biotechnology I Laboratory at Florida Atlantic University (Davie campus)
01/06- 06/07 Microbiology Adjunct faculty Broward Community College

Visiting Scientist Positions

06-07/15 2010 Worked in the laboratory of Dr. Ambro van Hoof at the UTHSCH performing cloning and yeast two hybrid assays
06-07 2011 Worked in the laboratory of Dr. Ambro van Hoof at the UTHSCH performing cloning and bacterial two hybrid assays
06 2012 Worked in the laboratory of Dr. Ambro van Hoof at the UTHSCH on bacterial stress tests and characterization of the yersinia degradosome.

Courses taught:

Microbiology lab (Broward Community College)
Microbiology (Broward Community College)
Microbiology (Nova Southeastern University)
Microbiology lab (Nova Southeastern University)
Genetics (Nova Southeastern University)
Genetics lab (Nova Southeastern University)
Immunology (Nova Southeastern University)
Biology I and lab (Nova Southeastern University)
Biology for non science majors (Nova Southeastern University)

Biotechnology I (Florida Atlantic University)
Biology Concepts and Connections (Nova Southeastern University)
Microbiology and lab (Texas Southern University)
Biology I (Texas Southern University)
Diagnostic/Molecular Bacteriology (Graduate course at Texas Southern University)

Advisory Boards served:

2017-present Virtual Lab Advisory Board member for Pearson Publishing

Department of Biology at TSU Committees served:

09-present Executive Advisory
09-present Student recruitment
09-present Scholarship and Fellowship
09-present Research and Graduate studies
09-present Student Development
09-present Ph.D Program (**Chair**)
08-2011-present Library acquisitions (**Chair**)

College of Science and Technology Committees served:

01/2010-08/2011 Mentor Mentee
08/2010-present Research Committee (**Chair 2011-2013**)
08/2010-08/2011 Faculty Evaluation Form
08/2010-present Provide High Quality Instruction (subcommittee)
08/2010-present Perform Basic and Applied Research (subcommittee)
08/2010-present Committee on Suspension and Re-admission
08/2010-present Committee on College Open House
08/2015-present Committee for recognition and Scholarship (**Chair**)
09/2015-present Committee on Title III Fellowship Selection
01/2018-present Environmental and Interdisciplinary Science Grievance Committee

University-wide Committees served

08/2010-09/2010 Grant Writer Search Committee
01/2011-06/2014 TSU Biosafety Committee
02/2011-06/2011 Biology Chair Search Committee
09/2011-06/2013 University Research Committee
09/2011-present Ad Hoc Committee on Faculty Performance and Teaching Evaluation Instruments
10/2012-12/2012 Environmental Science Chair Search Committee
01/2013-present Standing Committee on Intellectual Property

TSU Faculty Advisor role:

10/09-present Serve as the TSU Tri-Beta faculty advisor
01/16-present Serve as the co-Advisor for the TSU Pre-Veterinary Club

TSU Graduate Thesis/Dissertation Student Committees served:

09/08-12/09 Served as a committee member on Georgette Kendrea Rolle's Master's

- Thesis entitled “*High Energy Radiation Activates Nuclear Factor-Kappa B in Mice*”
- 09/08-04/10 Served as a committee member on Phyllis Johnson’s Master’s Thesis entitled “*Countermeasures against the Negative Effects of Microgravity*”
- 09/08-03/10 Served as a committee member on Shaunte Hulett’s Master’s Thesis entitled “*Phylogenetic Analysis of Aspergillus and Related Fungi Based on Mitochondrial Cytochrome Oxidase I*”
- 09/08-11/17/11 Served as **thesis advisor/mentor** on Ohunen Abogunde’s Master’s Thesis entitled “*Alterations in Gene Expression of Low Shear Modelled Microgravity (LSMMG) Grown Escherichia coli*”
- 09/2010-04/19/12 Served as thesis committee member on Nina Alaniz’s Master’s Thesis entitled “*Simulated Microgravity and Caenorhabditis elegans*”
- 09/08-12/12 Served as **dissertation advisor/mentor** on Abidat Lawal’s Doctoral Dissertation entitled “*Characterization of various Yersinia pestis mutants in their response to multiple stressors*”
- 08/2012-11/2012 Served as a committee member for Kelsey Parks’ Master’s Thesis entitled “*THE EFFECTS OF PRE AND PERI-NATAL EXPOSURE TO ARSENIC IN THE FETAL RAT KIDNEY*”
- 09/2011-04/2013 Served as **thesis advisor/mentor** on Amanda Henry’s Master’s Thesis entitled “*Characterization of the yersinia degradosome*”
- 03/2013-03/2014 Serve as dissertation committee member on Keila Robinson’s Doctoral Dissertation entitled “*Pre-formulation and Pharmacokinetics Evaluation of trans-Resveratol*”
- 11/2013-04/2014 Served as a thesis committee member on Kimberly Gilkes’ thesis entitled “*Apoptotic Effects of a Novel Di-ruthinium compound*”
- 11/2013-05/2014 Served as a thesis committee member on Tyquincia Boyd’s thesis entitled “*Effects of microgravity on the life span and reproduction of C. elegans*”
- 09/2013-10/2014 Served as dissertation committee member on Sarah John’s Doctoral Dissertation entitled, “*Drug discovery for treatment of microbial parasitic infection*”
- 08/2014-10/2014 Served as a ETox Thesis Committee member on Afolabi Adisa’s

Thesis entitled “The Evaluation and Risk Assessment of Polycyclic Aromatic Hydrocarbons in Some Brands of Tea.

- 05/2014-07/2015 Served as **ETox thesis advisor/mentor** for Mahsa Esmaeili’s Thesis entitled “*Effects of platinum group element exposure on Streptococcus pyogenes*”
- 06/2013-03/2015 Served as **thesis advisor/mentor** for Sandeel Ahmed’s Thesis entitled “*Characterization of Yersinia pestis isogenic mutants stress responses*”
- 06/2014-03/2015 Served as **thesis advisor/mentor** for Mohammed Olufemi Suraju’s Thesis entitled “*Evaluation of biofilm formation in various bacterial pathogens exposed to disparate environmental conditions.*”
- 06/2014-present Serve as **thesis advisor/mentor** for Troy Hobb’s Thesis entitled “*Characterization of Escherichia coli’s transcriptome profile following exposure to platinum group elements.*”
- 09/2014-04/2018 Served as **ETox dissertation advisor/mentor** on Mariam Konate’s Doctoral Dissertation entitled “*Evaluation of representative gut microflora during platinum group element exposure in a modelled human gut environment*”
- 01/2015-05/2018 Served as an external Doctoral Dissertation Committee member on Yanyun Liu’s (**U of Houston**) Dissertation entitled “*Understanding the substrate binding specificity and catalytic mechanisms of quorum-quenching acylase PvdQ by performing the molecular dynamics simulations, molecular docking calculations and in silico mutagenesis.*”
- 02/2015-04/2018 Served as an external Doctoral Dissertation Committee member on Priyanka Srivastava’s (**U of Houston**) Dissertation entitled “*SpoOA regulation of sporulation and biofilm formation in Bacillus subtilis.*”
- 06/2015-05/2017 Served as an external Doctoral Dissertation Committee member on Jourdan Andersson’s (**UTMB Galveston, Tx**) Dissertation entitled “*Alternative therapeutics for Y. pestis using repurposed drugs.*”
- 05/2015-12/2016 Serve as an ETox Thesis committee member on Gilbert Saah’s thesis entitled, “*Analysis of Urban Sprawl and its effects on Urban Environmental Characteristics Using Spectral Reflectance and Landsat Data in Harris County, Texas.*”
- 08/2015-08/2017 Served as **ETox thesis advisor/mentor** for Kimyatta Smith Thesis entitled “*Effects of dust exposure on environmental bacterial isolates.*”

- 05/2015-08/2015 Served as rotation student mentor for University of Houston Ph.D. candidate Jason Atkins in my laboratory on a project evaluating the stress responsive of various *Y. pestis* ribonuclease mutants and their complemented strains
- 10/2015-12/2015 Served as undergraduate advisor for Dominique Outing's Honors College Course Augmentation Project entitled "Ebola: A case Study"
- 11/2015-12/2016 Served as an ETox Thesis committee member on Carol Lewis' thesis entitled, "Sources of Polycyclic Aromatic Hydrocarbons in the Sediment of Buffalo Bayou and Galveston, TX."
- 11/2015-present Serve as an ETox Thesis committee member on Shamika Edward's thesis entitled, "A change and Modification in the Legislature and Regulation has a Significant Impact on the Environmental Toxicity Guidance, Policy, and Planning for a Technical Profession."
- 11/2015-05/2018 Served as an ETox Dissertation committee member on Nkem Azu's thesis entitled, "The Mechanistic Impact of Platinum Group Metals on Lung Epithelia cells."
- 1/2016-present Serve as thesis advisor/mentor for Jayvonte Davis thesis entitled, "Evaluation of the yersiniae response to dust exposure."
- 08/2016-12/2018 Served as a dissertation committee member on Matthew Fiala's dissertation entitled "Development of Transport Model for Trace Metals from Vehicular Emissions."
- 12/2016-05/2019 Served as a dissertation committee member on Vivek Mann's dissertation entitled "Tissue and Molecular Impact of Modelled Microgravity (Rotary Cell Culture System and Random Position Machine) on Bone Remodeling and Analysis of Tissue Engineering on Bone Tissue in Correlation with Effects of Pre-biotic AHCC in Osteoinduction, Relationships of fluid Movement in MMG and ARPE and Bone Cells."
- 12/2015-present Serve as dissertation advisor/mentor for Shari Galvin's project entitled, "Impact of Flooding Events on Bacterial Population Dynamics in Houston Watersheds."
- 12/2018-present Serve as dissertation advisor/mentor for Folasade Ayodotun's project entitled, "Impact of soil toxicants on bacterial loads and coping mechanisms."
- 01/2019-present Serve as dissertation advisor/mentor for Hanan Ali's project entitled, "Impact of soil toxicants on bacterial loads and coping mechanisms."

Skills acquired:

- Repeated exposure to PCR and stringency
- Conventional and non-conventional cloning
- RNA extraction
- RT-PCR
- Microarray
- western/immunoblotting
- 2D gel protein sample preparation
- Flow cytometric analysis of bacteria
- Tissue culture work
- Cold growth experiments with *Yersinia*
- Generating bacteria deletion strains
- Cell culture infection assays using *Yersinia*
- Elk based *Yersinia* translocation assays
- *Yersinia* Yop secretion assays
- Transfections
- siRNA knock-down
- Yeast 2 hybrid analysis
- Bacterial 2 hybrid analysis

Meetings attended

- 2004 Presented poster at the American Society for Microbiology General Meeting New Orleans, Louisiana 5/2004
- 2005 Presented poster at the American Society for Biochemistry and Molecular Biology General Meeting in San Diego, California 5/2005.
- 2008 Poster presentation at the American Society for Microbiology General Meeting entitled "*Evaluation of the antibacterial effects of a novel formulation*" Nick Rocco, Richard Wheeler, and **Jason A. Rosenzweig** in Boston, Massachusetts 5/2008
- 2008 Attend the Annual Biomedical Research Conference for Minority Students in Orlando, Florida 11/2008.
- 2009 Poster presentation entitled "*Characterization of High Energy Radiation and Microgravity on Virulence of Known Bacterial Pathogens and Opportunists*" Kayama Thomas, Y-uyen Nguyen, Olufisayo Jegelowo, and **Jason A. Rosenzweig**. Texas Academy of Science General Meeting March 6th, 2009 Junction, Texas
- 2010 Poster presentation entitled "*The Effects of Microgravity of Yersinia pestis virulence*" Abidat Lawal, Ohunene Abogunde, Olufisayo Jegelowo, and **Jason A. Rosenzweig**. at the Astrobiology meeting on April, 2010 in League city, Texas
- 2010 Poster presentation entitled "*The Effects of Low Shear Mechanical Stress on Yersinia pestis Virulence*" Abidat Lawal, Olufisayo Jegelowo, and **Jason A. Rosenzweig**. Texas Academy of Science annual meeting in Stephenville, Texas March, 2010.

- 2010 Poster presentation entitled “*Evaluation of E. coli and B. subtilis after Space Flight on Board Atlantis STS-129*” Ohunene Abogunde, Abidat Lawal, Kelsey Parks, Chelsea McCoy, Y-Uyen Nguyen, Ayodotun Sodipe, Olufisayo Jejelowo, and **Jason A. Rosenzweig**. Texas Academy of Science annual meeting in Stephenville, Texas March, 2010.
- 2011 Poster presentation entitled “*Yersinia pestis Virulence and Space-Like Stress*” Abidat Lawal, Olufisayo Jejelowo, and **Jason A. Rosenzweig**. At the 18th International Academy of Astronautics (IAA) Humans in Space Symposium Houston, Texas April 11-15th 2011
- 2011 Oral presentation (delivered by my Ph.D. student, Abidat Lawal) entitled “*Unexpected Modulation of Yersinia pestis Virulence Following Exposure to Low Shear Forces*” at the Texas Academy of Science General meeting 114th annual meeting march 3-5th Austin, Texas
- 2011 Oral presentation entitled: “*Unexpected modulation of Yersinia pestis virulence following exposure to low shear modelled microgravity (LSMMG): A possible model for Aeromonas hydrophila LSMMG studies given at the 10th International Symposium on Aeromonas and Plesiomonas May 19, 20 & 21, 2011 in Galveston, Texas*
- 2011 Poster presentation entitled “*Characterization of the Yersinia pseudotuberculosis Degradosome Using the Bacterial Two Hybrid Assay*” Justin Shanks, Amanda Harris, and **Jason A. Rosenzweig** University of North Texas Health Science Center Undergraduate Research Symposium Ft. Worth, Texas on 11/4/11
- 2012 Poster presentation entitled “*Type-three secretion-Dependent Low Shear Modelled Microgravity Attenuation of yersinia Virulence Potential*” A.Lawal, A.K. Chopra, and **J.A. Rosenzweig** at the NASA Human Research Program Investigators’ Workshop in Houston Texas on Thursday, February 16, 2012
- 2013 Poster presentation entitled “*The yersinia response to simulated microgravity: What can we learn about bacterial virulence from a space-like environment*” S. Ahmed, J. Eunson, A. Lawal, A.K. Chopra, and **J. A. Rosenzweig** at the Texas Southern University Research Week April 3rd, 2013 Houston, Texas
- 2013 Attended the Keck Annual Research Conference “*Therapeutic Monoclonal Antibodies*” on 11/8/13 at RICE University Houston, Texas.
- 2014 Poster presentation entitled “*The Yersinia pestis response to simulated microgravity: What can we learn about bacterial virulence from a space-like environment*” S. Ahmed, J. Eunson, A. Lawal, A.K. Chopra, and **J. A. Rosenzweig** on 03/07/14 at the Texas Academy 117th General Meeting Galveston, TX
- 2015 Poster presentation entitled “*Vertical Training of STEM Students from High School through Ph.D. Candidates*” **Jason A. Rosenzweig**, Daniel Vrinceanu, Hyun-Min Hwang, and Shishir Shishodia at the CREST / HBCU-RISE principal investigator meeting 2/18-2/19 2015, Washington, D.C.
- 2015 Poster presentation entitled “*Effects of Platinum Group Element Exposure on a gut-microbiome model system including Psuedomonas aeruginos, Enterococcus faecalis, Escherichia coli and HT29 cells*” Allen White, Mariam Konate, and **Jason A. Rosenzweig** at the Texas Academy of Science 118th

- General Meeting 3/6-3/8 2015 San Antonio, TX
- 2015 Oral presentation entitled “Responses of environmental bacterial isolates to dust exposure” presented by Rachel Obima (summer undergraduate research student of mine) October 17th, 2015 RICE University Bioscience Research Collaborative (BRC) building in Houston, TX.
- 2015 Oral Presentation entitled “The impact of Dust exposure on the Growth, Sensitivity to Oxidative-Stress, and virulence potential of the Pathogenic yersiniae” presented by Shari Galvin (PhD student of mine) Fall 2015 meeting of the Texas Branch of the American Society for Microbiology Sam Houston State University 10/29-10/31/2015 Huntsville, Texas
- 2016 Oral Presentation entitled “Developing a lung tissue bacterial co-culture model” presented by Shari Galvin (PhD student of mine) 2/25-2/27/2016 Emerging Research National Conference in STEM, Washington, D.C.
- 2016 Oral Presentation entitled “Developing a Lung Tissue Co-culture model Evaluating the Impact of Dust Exposure” by Shari Galvin (PhD student of mine) at the Texas Academy of Science 119th General Meeting 3/4-3/6 2016 Junction, TX
- 2016 Oral Presentation entitled “Effects of dust exposure on opportunistic bacterial co-cultures” by Mariam Konate (PhD student of mine) at the Texas Academy of Science 119th General Meeting 3/4-3/6 2016 Junction, TX
- 2016 Attended the Southeast Texas Evolutionary Genetics and Genomics Symposium at the University of Houston 06/03/2016 Houston, Texas.
- 2017 Poster presentation entitled “Evaluation of the soil and water quality of Halls Bayou and its cytotoxic effects on Human and Ecological Health” **Adraina Rodriguez and Jason A. Rosenzweig** at the CREST / HBCU-RISE principal investigator meeting 2/18-2/19 2017, Washington, D.C.
- 2018 Invited to participate in the Pearson 2018 Teaching with Technology Summit March 22-23, 2018 in Dallas, TX
- 2019 Poster presentation entitled “Analyzing Water Quality Characteristics of Hunting Bayou and Microbial Content in Brays Bayou of Harris County, Texas” **Esther Sey and Jason A. Rosenzweig** at the CREST / HBCU-RISE principal investigator meeting 2/21/2019-2/23/2019, Washington, D.C.
- 2019 Oral presentation entitled “Biological and Chemical Characterization of the Tigris River” by Hanan Ali (Ph.D. student of mine) at the CREST / HBCU-RISE principal investigator meeting 2/21/2019-2/23/2019, Washington, D.C.
- 2019 Oral presentation entitled “Microbiological Assessment of Houston Area Water and Soil Samples” by Flosade Adedoyin (Ph.D. student of mine) at the CREST / HBCU-RISE Principal Investigator meeting 2/21/2019-2/23/2019, Washington, D.C.

Seminars given

- 2005 Stanford University Department of Genetics
- 2005 The Scripps Research Institute Palm Beach, FL Department of Infectology

- 2007 Università degli studi di Milano Department of Biomolecular Science and Biotechnology (Milan, Italy) on June 21st, 2007 entitled *Optimal Type Three Secretion System Activity of the Pathogenic yersiniae Requires Polynucleotide Phosphorylase: A Phenomenon That is Mediated by Its S1 RNA Binding Domain*”
- 2009 Texas Academy of Science General Meeting March 6th, 2009 in Junction, Texas entitled “*Yersiniae and Space-like stress (SLS) : is this the final frontier?*”
- 2009 University of Houston Downtown campus Houston, Texas March 26th, 2009 entitled “*Polynucleotide Phosphorylase (PNPase) and its Affect on Yersiniae Virulence*”
- 2009 Texas Southern University Research Week Houston, Texas March, 30th 2009 entitled “*Space-like stress (SLS) and space microbiology: is this the final frontier?*”
- 2010 Texas Southern University College of Sciecne and Technology Open House Houston, Texas 2/24 entitled “*Immune cell, temperature, and Space-like stress responses of bacteria*”
- 2010 Delivered a guest lecture on the “*History of Microbiology*” for the Laurentian University Partnership Center at Georgian College in Orillia, Ontario Canada 7/2010 after invitation from Professor Robert Killam
- 2010 Delivered a research seminar entitled “*Yersina Pestis Pathogenesis: a pathogen's perpective*” in December (12/13/10) at the University of North Texas Health Science Center Department of Molecular Biology and Immunology invited by Dr. Harlan Jones.
- 2011 University of Houston (main campus) “*Yerisnia pestis pathogenesis*” hosted by Dr. James Briggs 2/16/11
- 2011 Invited speaker at the 10th International Symposium on Aeromonas and Plesiomonas Gaveston Tx May 19th-21st, 2011. Seminar Title: “*Aeromonas hydrophila, a possible model organism for low shear modeled microgravity (LSMMG) studies: Unexpected modulation of other enteric pathogens and Yersinia pestis virulence following exposure to LSMMG.*”
- 2012 Delivered a seminar entitled, “*The Potential Bridge Between RNA Metabolism and the Unexpected Response of the yersinaie to Low Shear Force*” on February 13th, 2012 at the Texas Southern University NASA University Research Center seminar series
- 2012 Delivered a Research seminar during the Texas Southern University’s Resaerch Week opening session (4/2/12) entitled “*The pathogenic yersiniae in space: What could happen and what can we learn?*”
- 2013 Delivered a research seminar entitled “*Ribonucleases and yersinaie stress Responses*” on June 13th, 2013 at the University of Toronto Hospital for Sick Children’s Molecular Genetics and Institute of Medical Science.
- 2014 Delivered a Research Seminar entitled “*Bacterial Stress Responses*” at the Environmental and Interdisciplinary Sciences seminar series 02/26/2014 at Texas Southern University Houston, TX
- 2015 Delivered a seminar entitled “*Vaccination-its Science and Socio-Political Issues*”

- at the Science and Religion Discussion Group (Invited by Dr. Mariam Hillar) on 5/18/2015 at the Christ the King Lutheran Church Houston, Texas
- 2017 Delivered a research seminar at the University of Houston Department of Engineering Technology Biotechnology program, entitled “Bacterial Stress Responses on 2/24/2017 in Houston, TX.
- 2019 Delivered a research seminar entitled “The Degradosome and its Role Played in *Yersinia pseudotuberculosis*” at the 2019 Synergistic Mentoring in Drug Discovery and Development Symposium on 3/25/2019 in Houston, TX

Professional Society Memberships

- 2007-present American Society for Microbiology
 2011-present National Association of Biology Teachers

Research Interest:

- 2007-present Bacterial genetics: stress responses and host parasite (bacterial pathogen) interactions
- 2007-08 Antimicrobial mechanism of action
- 09/08-present The effects of microgravity and ionizing radiation on bacterial virulence
- 11/09 Was the lead investigator for a NASA University Research Center proof of concept flight experiment that had graduate and undergraduate students load NASA flight hardware with 2 bacteria *E. coli* and *B. subtilis* on board NASA STS-129 Atlantis for space flight; upon return samples will be evaluated for morphological and transcriptome profile changes due to space flight (November 2009).
- 2007-present The effects of RNA metabolism and roles played by ribonucleases on bacterial virulence
- 2014-present The impact of exposure to environmental toxicants (e.g., platinum group elements) on gut microbiota

Journal Reviewer:

- 2008 Invited to review a manuscript by The Open Epidemiology Journal (Bentham Science Publishers)
- 2009 Invited to review a manuscript (ID#GTC-09-0069) by the Genes to Cell journal
- 2009 Invited to review a manuscript (ID# FEMSIM-09-11-0307) by FEMS Immunology and Medical Microbiology journal
- 2010 Invited to review manuscript ID AMB-10-20234 by Applied Microbiology and Biotechnology
- 2010 Invited to review Manuscript ID Number: ABAB-2262R1 by Applied Biochemistry and Biotechnology:

- 2010 Invited to review Manuscript ID number VETMIC-D-10-4790 by Veterinary Microbiology
- 2011 Invited to review manuscript ID # FEMSLE-11-04-0389 by FEMS Microbiology Letters
- 2011 Invited to review manuscript ID # IJEB/971034 by the International Journal of Evolutionary Biology
- 2011 Invited to review manuscript ID# JMM/2011/037960 by the Journal for Medical Microbiology
- 2012 Invited to review manuscript ID # AST-2011-0781 by the Astrobiology journal
- 2012 Invited reviewer for Expert Review of Vaccines
- 2013 Invited to review manuscript ID# AEM00675-13 for Applied and Environmental Microbiology
- 2013 Invited to review manuscript ID #D-13-00142 for Genomics (Elsevier)
- 2014 Invited to review manuscript ID # FEMSLE-14-09-0809 for FEMS Microbiology Letters
- 2015 Invited to review manuscript ID #GICS-D-15-00074 for BMC Genomics
- 2015 Invited to review manuscripts for Medical Research Archives
- 2015 Invited to review manuscript ID # FEMSEC-15-10-0506 for FEMS Microbiology Ecology
- 2016 Invited to review manuscript ID #JVAC-D-16-00377 for Vaccine

Grant Reviewer:

- 2009-present Review Texas Southern University Seed Grant proposals
- 2011-present Invited to review grant proposals of NSF
- 2012-present Invited to review grant proposals of NASA (*ad hoc* study section member)
- 2015-present Invited to review grant proposals for the Swiss Cancer League
- 2015-present Invited to review grants for the NASA Postdoctoral Program
- 02/09/2017 Ad hoc member on the National Exposure Research Laboratory (NERL), Technical Qualifications Board (TQB) of the Environmental Protection Agency on behalf of Dr. Lantis Osemwengie
- 2017-present Review grant proposal for NASA's Planetary Science Division CubeSat/SmallSat missions
- 2018-present Review grant proposal for NASA's Research and Education Support Services (NRESS) on NASA's Human Research Program

Book Chapter Reviewer:

- 2011 Invited to review 4 chapters for Slonczewski & Foster's Microbiology: An Evolving Science, 3e. W. W. Norton & Company December 2011
- 2012 Invited to review 10 lab experiments for Keating Microbiology Lab Manual W. W. Norton & Company December 2012

2015 Invited to join a focus group discussing online Microbiology content for Pearson publishing April 2015

Grants and Research Support:

- 08/2007 PI Awarded competitive research startup funding my NSU Division of Math Science and Technology in the amount of \$3000: **Funded.**
- 12/2007 Research consultancy fee awarded (\$5,500) to characterize a C-8 surfactant based antimicrobial hand foam for a venture capitalist company Third Stream Bioscience Inc: **Funded**
- 09/08 Co-investigator on a NASA funded 5 year \$5.5 million cooperative agreement (NNX08B4A47A) focused on the study of space microbiology and the effects of microgravity and space-like irradiation on bacterial pathogenesis: **Funded**
- 02/09 PI Awarded a competitive \$15,000 Texas Southern University seed grant (Sg0609) to support the study of two bacterial stress responses: cold growth and immunological host cell challenge of both Gram positive and negative pathogens: **Funded**
- 09/09 PI Submitted a Department of Defense grant proposal to the Army Research Office (ARO) entitled “Characterization of *Yersinia pestis* stress responses and Virulence” (3 years @ \$360,000): currently **Not funded**
- 11/09 Submitted a TSU seed grant entitled “Evaluation of the Role Played by Ribonucleases in Bacterial Virulence” for \$20,000: denied funding based on a disqualification for possessing external funding support through NASA **Not Funded**
- 02/10 Submitted proposal/application for the Department of Homeland Security Summer Research Team Program for Minority Serving Institutions: **Not funded**
- 02/10 Co-investigator NIH R01 entitled: *Identification of new antigens for a plague vaccine* (2R01AI064389-07A1) Period: 12/01/2010-11/30/2015 Total amount: \$1,923,068: **Funded.**
- 05/10 Primary Investigator: University of Texas Health Science Center Houston summer salary proposal entitled: Salary Reimbursement Agreement between The University of Texas Health Science Center at Houston and Texas Southern University Co-investigator Ambro van Hoof \$9,333.33. **Funded.**
- 07/10 Co-investigator on a NASA cooperative agreement proposal examining life in extreme environments. The notice of intent has been submitted and is entitled “Origin, evolution, and distribution of Microbial Life in Extreme Environments.” **Not funded.**
- 02/11 Senior personnel on an NSF Research Opportunity Award (ROA; MCB 1020739 001) Antiviral Mechanisms of the Yeast RNA Decay Machinery and Viral Countermeasures \$12,756 for 2 months (June and July 2011). **Funded.**
- 04/11 Senior personnel on an NSF HBCU RISE proposal to fund a Center for Research in Environmental Biology (CREB) which will evaluate platinum

- group elements-induced stress responsive bio-molecules in various eukaryotic models and develop computer models to predict specific stress-related pathways. **Not funded.**
- 12/11 Co-investigator on a NASA proposal entitled: *Selection and Evolution of Life in Extraterrestrial and Cleanroom Testbeds*. **Not funded.**
- 1/12 Senior personnel on an NSF Research Opportunity Award (ROA) Antiviral Mechanisms of the Yeast RNA Decay Machinery and Viral Countermeasures \$6377.78 for 1 month (June 2012). **Funded.**
- 07/12 Primary Investigator: University of Texas Medical Branch Galveston, Texas summer salary proposal entitled: Salary Reimbursement Agreement between The University of Texas Medical Branch and Texas Southern University. Co-investigator Ashok Chopra. \$12,755.56 (for 2 months salary July and August 2012). **Funded**
- 10/12 Co-Investigator NSF RISE proposal entitled “Establishment of a Center for Research in Environmental Biology (CREB). **Not funded.**
- 05/13 Primary Investigator: University of Texas Medical Branch Galveston, Texas summer salary proposal entitled: Salary Reimbursement Agreement between The University of Texas Medical Branch and Texas Southern University. Co-investigator Ashok Chopra. \$13,588.50 (for 2 months salary June and July 2013). **Funded**
- 05/13 Co-Investigator DOE proposal for minority science and engineering improvement program (MSEIP) \$750,000/3 years **Not Funded.**
- 06/13 PI on an NSF CAREERS proposal entitled “Evaluation of the role(s) played by the psychrotropic *Yersinia* spp.’s ribonucleases during various stress responses.” \$563,000/ 5 years. **Not funded.**
- 11/13 Co-investigator on a NASA proposal entitled, “Life in Oligotrophic, Psychrophilic, and High Radiation (OPR) Environments, (PI): George Fox (University of Houston). NASA Cooperative Agreement Notice entitled “Astrobiology Institute Cycle 7” (NNH13ZDA017C) **Not funded.**
- 11/13 PI on an NIH SCORE3 proposal entitled “Evaluation of the role(s) played by the psychrotropic *Yersinia* spp.’s ribonucleases during various stress responses.” \$476,000/ 4 years. **Not Funded.**
- 03/14 Co- Principal Investigator NSF RISE proposal (HRD-1345173) entitled “Characterization of Biomolecular Stress Responses” **Funded** \$991,206 from 3/15/14-2/28/19.
- 06/15 PI on a Department of Education Minority Science and Engineering Improvement Program (MSEIP) at Texas Southern University proposal requesting \$664,398 for 3 years. **Not funded.**
- 07/15 Co-Investigator on an NIH R01 competitive renewal proposal entitled “Evaluation of novel *Y. pestis* vaccine candidate strains” for the period of September 2015-August 2021 requesting \$1,923,068: **Not funded.**
- 10/15 Co-Principal Investigator on an NSF Engineering Research Center Program (Dr. Badri Roysam PI University of Houston) that will generate various tissues/organs optimized for key deliverables through the integration of big data analytics. \$40 million/10 years. **Not funded.**
- 02/16 Co-investigator NIH R01 entitled: *Identification of new antigens for a plague*

- vaccine* (2R01AI064389-07A1 competitive renewal) Total amount: \$1,923,068: **Not funded.**
- 02/16 Consultant NIH R01 entitled: *Extending the Koch postulates for the 21st century using a Polymicrobial necrotizing fasciitis model.* Total amount: \$1,923,068: **Not funded.**
- 09/16 Co-Principal Investigator NSF HBCU UP Targeted Infusion project proposal (HRD 1622993) entitled “Infusion of Geospatial Informatics to Enhance an Undergraduate Biological Science Program.” **Funded** \$399,999.00 (09/01/2016-8/31/2019).
- 01/17 Consultant/User of NSF MRI proposal in collaboration with Dr. Michael LaMontagne (University of Houston Clear Lake) for the purchase of a MALDI-TOF (Bruker Microflex) for protein based identification of unknown microbes and analysis of meta-proteomes. **Not Funded.**
- 02/19/2017 Co-PI National Science Foundation Research Traineeship (NRT) Program: Integrative Graduate Urban Environmental Sustainability Training (I-GUEST) Program at Texas Southern University 5 year \$3,000,000. **Not Funded.**
- 02/10/2017 Co-PI National Science Foundation Research Infrastructure for Science and Engineering (RISE): Characterization, Dynamics, and Biological Impact of Indoor Dust Exposure 3 years \$ \$999,642. **Not Funded.**
- 09/18 Co- Principal Investigator NSF RISE proposal (HRD-1829184) entitled “Characterization, Dynamics, and Biological Impact of Indoor Airborne Dust Exposure” **Funded** \$999,786 from 10/01/18-09/30/21.

Editor

- 01/2012-present Serve as an editor for the “Explorer Magazine: Occasional Research Publication of the College of Science and Technology at Texas Southern University”
- 02/2013-present Serve as a member of the editorial board for Biological Systems (OMICS Group Inc.) journal.

Publications

Bado M, Keita D, Azu N, Shishodia S, **Rosenzweig JA** (2018) Mixed bacterial responses to dust exposure in an A549 eukaryotic co-culture. *Appl Microbiol Biotechnol.* Appl Microbiol Biotechnol. 2018 Nov;102 (22):9759-9770. doi: 10.1007/s00253-018-9322-9.

Maruthi Sridhar Balaji Bhaskar, **Jason A. Rosenzweig**, and Shishir Shishodia (2018) March 2018, posting date. Investigating Sexually Transmitted Disease (STD) Ecologies

Using Geographic Information Systems (GIS). *Teaching Issues and Experiments in Ecology*, Vol. 13: Practice #6
[online]. http://tiee.esa.org/vol/v13/issues/data_sets/bhaskar/abstract.html

Bhaskar MSB, Shishodia S, and **Rosenzweig JA** (2018). The Impact of Using Geographic Information Systems Technology on Students' Understanding of Epidemiology. *The American Biology Teacher* March 2018, Vol. 80 No. 3, (pp. 191-197) **DOI:** 10.1525/abt.2018.80.3.191

Bado M, Kwende S, Shishodia S, **Rosenzweig JA** (2017) Impact of dust exposure on mixed bacterial cultures and during eukaryotic cell co-culture infections. *Appl Microbiol Biotechnol*. 2017 Aug 3. doi: 10.1007/s00253-017-8449-4.

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Rosenzweig JA, Ahmed S, Eunson J Jr, Chopra AK (2014) Low-shear force associated with modeled microgravity and spaceflight does not similarly impact the virulence of notable bacterial pathogens. *Appl Microbiol Biotechnol*. 2014 Nov;98(21):8797-807

Rosenzweig JA, Chopra AK (2013) The exoribonuclease Polynucleotide Phosphorylase influences the virulence and stress responses of yersiniae and many other pathogens. *Front Cell Infect Microbiol*. 2013 Nov 19;3:81. doi: 10.3389/fcimb.2013.00081. eCollection 2013.

Rosenzweig JA and Chopra AK (2013) Modulation of host immune defenses by *Aeromonas* and *Yersinia* species: convergence on toxins secreted by various secretion systems. *Front Cell Infect Microbiol.* 2013 Oct 30;3:70. doi: 10.3389/fcimb.2013.00070. eCollection 2013.

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Contacts/References

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