

Name	Position Title
Jason A. Rosenzweig	Associate 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 2<sup>nd</sup> 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)

**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 Taught the graduate course Diagnostic Bacteriology (7 week shortened course)
- 08/08-present Mentoring directed undergraduate research projects at Texas Southern University
- 08/08-present Mentoring Masters degree student and PhD students research projects

**Employment**

- 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)

**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)

**University-wide Committees served**

08/2010-09/2010      Grant Writer Search Committee  
01/2011-present      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

**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-present Serve 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-present Serve 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-present Serve 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-present Serve as an external Doctoral Dissertation Committee member on Jourdan Andersson’s (UTMB Galveston, Tx) Dissertaion entitled “Alternative therapeutics for *Y. pestis* using repurposed drugs.”
- 05/2015-present 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-present Serve 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

**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 Jejelowo, and **Jason A. Rosenzweig**. Texas Academy of Science General Meeting March 6<sup>th</sup>, 2009 Junction, Texas
- 2010 Poster presentation entitled “*The Effects of Microgravity of Yersinia pestis virulence*” Abidat Lawal, Ohunene Abogunde, Olufisayo Jejelowo, 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 Jejelowo, 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 18<sup>th</sup> International Academy of Astronautics (IAA) Humans in Space Symposium Houston, Texas April 11-15<sup>th</sup> 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 114<sup>th</sup> annual meeting march 3-5<sup>th</sup> 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 10<sup>th</sup> 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 3<sup>rd</sup>, 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 117<sup>th</sup> 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 aeruginosa*, *Enterococcus faecalis*, *Escherichia coli* and HT29 cells” Allen White, Mariam Konate, and **Jason A. Rosenzweig** at the Texas Academy 118<sup>th</sup> General Meeting 3/6-3/8 2015 San Antonio, TX

### 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 21<sup>st</sup>, 2007 entitled *Optimal Type Three Secretion System Activity of the Pathogenic yersinia Requires Polynucleotide Phosphorylase: A Phenomenon That is Mediated by Its S1 RNA Binding Domain*”
- 2009 Texas Academy of Science General Meeting March 6<sup>th</sup>, 2009 in Junction, Texas entitled “*Yersinia* and Space-like stress (SLS) : is this the final frontier?”
- 2009 University of Houston Downtown campus Houston, Texas March 26<sup>th</sup>, 2009 entitled “*Polynucleotide Phosphorylase (PNPase) and its Affect on Yersinia Virulence*”
- 2009 Texas Southern University Research Week Houston, Texas March, 30<sup>th</sup> 2009 entitled “*Space-like stress (SLS) and space microbiology: is this the final*



- frontier?”*
- 2010 Texas Southern University College of Science 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 “*Yersinia Pestis Pathogenesis: a pathogen's perspective*” 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) “*Yersinia pestis pathogenesis*” hosted by Dr. James Briggs 2/16/11
- 2011 Invited speaker at the 10<sup>th</sup> International Symposium on Aeromonas and Plesiomonas Gaveston Tx May 19<sup>th</sup>-21<sup>st</sup>, 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 yersiniaie to Low Shear Force*” on February 13<sup>th</sup>, 2012 at the Texas Southern University NASA University Research Center seminar series
- 2012 Delivered a Research seminar during the Texas Southern University’s Research Week opening session (4/2/12) entitled “*The pathogenic yersiniaie in space: What could happen and what can we learn?*”
- 2013 Delivered a research seminar entitled “*Ribonucleases and yersiniaie stress Responses*” on June 13<sup>th</sup>, 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

### **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

**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

**Book Chapter Reviewer:**

- 2011 Invited to review 4 chapters for Slonczewski & Foster's *Microbiology: An Evolving Science*, 3e. W. W. Norton & Company December 2011

**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) 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 3/15/14-2/28/17.
- 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. **Under review.**
- 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: **Under review.**

## **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**

Mohammed O. Suraju, Sloan Lalinde-Barnes, Sachindra Sanamvenkata, Mahsa Esmaili, Shishir Shishodia, and **Jason A. Rosenzweig (2015)**. The Effects of Indoor and Outdoor Dust Exposure on the Growth, Sensitivity to Oxidative-Stress, and Biofilm Production of Three Opportunistic Bacterial Pathogens. *Scienc of the Total Environmnet*, in press

Shishodia S, Azu N, **Rosenzweig JA**, Jackson DA (2015) Guggulsterone for Chemoprevention of Cancer. *Current Pharmaceutical Design*, in press.

Losh JS, King AK, Bakelar J, Taylor L, Loomis J, **Rosenzweig JA**, Johnson SJ, van Hoof A (2015) Interaction between the RNA-dependent ATPase and poly(A) polymerase subunits of the TRAMP complex is mediated by short peptides and important for snoRNA processing. *Nucleic Acids Res.* 2015 Jan 14. pii: gkv005.

**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.* 19;3:81.

**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.* 3:70. doi:10.3389/fcimb.2013.00070

Lawal A, Kirtley ML, van Lier CJ, Erova TE, Kozlova EV, Sha J, Chopra AK, **Rosenzweig JA** (2013) The Effects of Modeled Microgravity on Growth Kinetics, Antibiotic Susceptibility, Cold Growth, and the Virulence Potential of a *Yersinia pestis*

ymoA-Deficient Mutant and Its Isogenic Parental Strain. *Astrobiology*. 2013 Sep;13(9):821-32. doi: 10.1089/ast.2013.0968.

Sha J, **Rosenzweig JA**, Kozlova EV, Wang S, Erova TE, Kirtley ML, van Lier CJ, Chopra AK (2013) Evaluation of the roles played by Hcp and VgrG type six secretion system effectors in *Aeromonas hydrophila* SSU pathogenesis. *Microbiology*. 2013 Jun;159(Pt 6):1120-35. doi: 10.1099/mic.0.063495-0.

Sha J, **Rosenzweig JA**, Kirtley ML, van Lier CJ, Fitts EC, Kozlova EV, Erova TE, Tiner BL, Chopra AK. (2013) A non-invasive in vivo imaging system to study dissemination of bioluminescent *Yersinia pestis* CO92 in a mouse model of pneumonic plague. *Microb Pathog*. 2013 Feb;55:39-50. doi: 10.1016/j.micpath.2012.09.011. [Epub 2012 Oct 9.]

Sha J, Kirtley ML, van Lier CJ, Wang S, Erova TE, Kozlova EV, Cao A, Cong Y, Fitts EC, **Rosenzweig JA**, Chopra AK (2013) Deletion of Braun lipoprotein encoding gene and altering the function of lipopolysaccharide attenuate plague bacterium. *Infect Immun*. 2013 Mar;81(3):815-28. doi: 10.1128/IAI.01067-12.

Erova TE, **Rosenzweig JA**, Sha J, Suarez G, Sierra JC, Kirtley M, van Lier CJ, Telepnev MV, Motin VL, Chopra AK (2013) Evaluation of protective potential of *Yersinia pestis* outer membrane protein antigens as possible candidates for a new generation recombinant plague vaccine. *Clin Vaccine Immunol*. 2013 Feb;20(2):227-38. doi: 10.1128/CVI.00597-12.

Norris V, Menu-Bouaouiche L, Becu JM, Legendre R, Norman R, **Rosenzweig JA** (2013) Hyperstructure interactions influence the virulence of the Type 3 secretion system in yersiniae and other bacteria. *Appl Microbiol Biotechnol*. 2012 Oct;96(1):23-36. Epub 2012 Aug 5

Henry A, Shanks J, van Hoof A, and **Rosenzweig JA**. The *Yersinia pseudotuberculosis* Degradosome is Required for Oxidative Stress, While its PNPase Subunit Plays a Degradosome-Independent Role in Cold Growth. *FEMS Microbiol Lett*. 2012 Nov;336(2):139-47. doi: 10.1111/j.1574-6968.12000.x. Epub 2012 Sep 24.

**Rosenzweig JA**, Chopra AK. The effect of low shear force on the virulence potential of *Yersinia pestis*: new aspects that space-like growth conditions and the final frontier can teach us about a formidable pathogen. *Front Cell Infect Microbiol*. 2012; 2:107. Epub 2012 Aug 9.

**Rosenzweig JA** and Chopra AK The future of plague vaccines: hopes raised by a surrogate, live-attenuated recombinant vaccine candidate. *Expert Rev Vaccines*. 2012 Jun;11(6):659-61.

Cristi Lara Galindo, **Jason A. Rosenzweig**, Michelle L. Kirtley, and Ashok K. Chopra. Pathogenesis of *Y. enterocolitica* and *Y. pseudotuberculosis* in Human Yersiniosis.

Journal of Pathogens, vol. 2011, Article ID 182051, 16 pages, 2011.  
doi:10.4061/2011/182051.

**Rosenzweig JA**, Brackman SM, Kirtley ML, Sha J, Erova TE, Yeager LA, Peterson JW, Xu ZQ, Chopra AK. Evaluation of a New Chemotherapeutic: Cethromycin-Mediated Protection Against the Plague Pathogen, *Yersinia pestis*, in a Rat Model of Infection and its Comparison with Levofloxacin. *Antimicrob Agents Chemother*. 2011 Nov; 55(11):5034-42. Epub 2011 Aug 22.

**Jason A. Rosenzweig**, Olufisayo Jejelowo, Jian Sha, Tatiana E. Erova, Sheri M. Brackman, Michelle L. Kirtley, Cristina L van Lier, and **Ashok K. Chopra**. Progress on Plague Vaccine Development. *Appl Microbiol Biotechnol*. vol. 91, no. 2, pp. 265–286, 2011 Jun 14. [Epub ahead of print] DOI 10.1007/s00253-011-3380-6

**Jason A. Rosenzweig** and Olufisayo Jejelowo. What Microbes are Lurking in Your House? A Guide to Developing a Meaningful and Current Microbiology Lab Experiment. *The American Biology Teacher*, 2011 Vol. 73, No. 6, pages 330–334 DOI: 10.1525/abt.2011.73.6.5

Lawal A, Jejelowo O, Chopra AK., **Rosenzweig JA** Ribonucleases and Bacterial Virulence. *Microb Biotechnol*. 2011 Sep;4(5):558-71. doi: 10.1111/j.1751-7915.2010.00212.x. Epub 2010 Oct 15

Lawal A, Jejelowo O, **Rosenzweig JA** The Effects of Low Shear Mechanical Stress on *Yersinia pestis* Virulence. *Astrobiol* **10**(9):881-8 (2010) DOI: 10.1089/ast.2010.0493

**Rosenzweig JA**, Abogunde O, Thomas K, Lawal A, Nguyen YU, Sodipe A, Jejelowo O. Spaceflight and modeled microgravity effects on microbial growth and virulence. *Appl Microbiol Biotechnol*. 2010 Jan;85(4):885-91 2009 Oct 22. [Epub ahead of print]

**Rosenzweig, J. A.**, B. Chromy, A. Echeverry, J. Yang, B. Adkins, G. V. Plano, S. McCutchen-Maloney and K. Schesser. Polynucleotide phosphorylase independently controls virulence factor expression levels and export in the yersiniae. *FEMS Microbiol Lett*. 2007 May; 270(2):255-64. Epub 2007 Mar 28

**Rosenzweig, J. A.** and K. Schesser. Polynucleotide phosphorylase and the T3SS. *Adv Exp Med Biol*. 2007;603:217-24. Review.

Wiley DJ, Nordfeldth R, **Rosenzweig J**, Dafonseca CJ, Gustin R, Wolf-Watz H, Schesser K. The Ser/Thr kinase activity of the *Yersinia* protein kinase A (YpkA) is necessary for full virulence in the mouse, mollifying phagocytes, and disrupting the eukaryotic cytoskeleton. *Microbial Pathogenesis* 2006 May;40(5):234-43. Epub 2006 Apr 19

**Rosenzweig JA**, Weltman G, Plano GV, Schesser K. Modulation of *Yersinia*'s type three secretion system by the S1 domain of polynucleotide phosphorylase. *J Biol Chem*. 2005 Jan 7;280(1):156-63. Epub 2004 Oct 26

Patarca R, **Rosenzwei JA**, Zuniga AA, Fletcher MA. Benzalkonium salts: effects on G protein-mediated processes and surface membranes. Crit Rev Oncog. 2000;11(3-4):255-305. Review.

Edgeworth RL, San JH, **Rosenzweig JA**, Nguyen NL, Boyer JD, Ugen KE  
Vaccine development against HIV-1: current perspectives and future directions.  
Immunol Res. 2002;25(1):53-74. Review.

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