

## **Desirée A. Jackson, Ph.D.**

Texas Southern University  
Department of Biology  
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### **Professional Experience:**

Texas Southern University, Houston, Texas <i>Professor</i> , Department of Biology.	9/2016 to present
Texas Southern University, Houston, Texas <i>Assistant Dean for Student Services &amp; Instructional Support</i> College of Science, Engineering & Technology.	9/2012 to present
Texas Southern University, Houston, Texas <i>Interim Assistant Dean for Student Services &amp; Instructional Support</i> College of Science & Technology.	9/2009 to 8/2012
Texas Southern University, Houston, Texas <i>Acting Chair</i> , Department of Biology.	2/2011 to 8/2011
Texas Southern University, Houston, Texas <i>Associate Professor</i> , Department of Biology.	9/2003 to 8/2016
Texas Southern University, Houston, Texas <i>Interim Chair</i> , Department of Biology.	9/2004 to 8/2007
Texas Southern University, Houston, Texas <i>Tenure-Track Assistant Professor</i> , Department of Biology.	9/1999 to 8/2001
Texas Southern University, Houston, Texas <i>Research Associate</i> , Department of Biology.	11/1997 to 5/1999
Texas Southern University, Houston, Texas <i>Visiting Assistant Professor</i> , Department of Biology.	8/1996 to 9/1999
Howard Hughes Medical Institute, Houston, Texas <i>Research Associate</i> , Department of Biochemistry, Baylor College of Medicine.	1/1996 to 8/1996
Baylor College of Medicine, Houston, Texas <i>Research Associate</i> , Department of Molecular and Human Genetics.	7/1993 to 8/1995

### **Education:**

<i>Post doctoral Fellow</i> , Institute for Molecular Genetics Baylor College of Medicine, Houston, Texas	1991 to 1993
<i>Doctor of Philosophy in Biomedical Sciences</i> , Specialty: Molecular Parasitology Meharry Medical College, Nashville, Tennessee	1984 to 1992

## **Courses taught:**

### *Non-majors:*

Survey of Life Sciences (lecture format)  
Survey of Life Sciences (online format)

### *Biology majors:*

Biological Sciences I  
Biological Sciences II  
Cell Biology lecture and laboratory  
Developmental Biology lecture and laboratory  
Experiments in Biology I  
Experiments in Biology II  
Undergraduate Research  
Laboratory Methods in the Biological Sciences  
Molecular Biology lecture and laboratory

### *Graduate level:*

Topics in Biology  
Experimental Biology  
Research Problems

## **Graduate Students:**

### *Mentees, Ph.D. in Environmental Toxicology:*

José Torres-Hernández, Ph.D. Environmental Toxicology, May 2013  
Neurotoxic Response in Astrocytes to Acute Exposures of Simulated Microgravity

### *Mentees, Masters in Biology:*

Michael Nguyen, M.S. Biology May 2019  
Effect of Inorganic Arsenic on Caspase Mediated Apoptosis and DNA Fragmentation in BEAS-2B Cells

Leandra Stewart, M.S. Biology May 2019  
BHA and BHT Modulate  $\alpha$ -Solanine Induced Cellular Stress in BEAS-2B Cells

Ademola D. Adejayan, M.S. Biology Dec 2017  
BHA AND BHT Ameliorate the Toxic Effects of Inorganic Arsenic on genes involved in growth arrest and apoptosis in BEAS-2B cells

Vidyakiran Polaki, M.S. Biology Dec 2017  
BHA and BHT Ameliorate the Toxicity of Arsenic Through RAP1 and MAPK Pathways in BEAS-2B Cells

Erica Shead, M.S. Biology May 2015  
The Effects of Pre- and peri-natal Exposure to Arsenic on Gene Expression in Fetal Rat Liver

Kelsey Parks, M.S. Biology Dec 2012  
The Effects of Pre- and peri-natal Exposure to Arsenic on Gene Expression in Fetal Rat Kidney

Jorge Blanco, M.S. Biology May 2008  
The Effects of Pre- and peri-natal Exposure to Arsenic on Gene Expression in Fetal Rat Lung

Deshonta Holmes, M.S. Biology, May 2006.  
Effects of Pre-Natal Exposure to Arsenic on Gene Expression in Fetal Rat Kidney

Darryl Kelly, M.S. Biology, May 2006.  
The Effects of Pre-natal Exposure to Arsenic on Gene Expression in Fetal Rat Brain

#### ***Graduate Student Committees***

Taye Folabi, M.S. Chemistry, May 2018  
Kadesia Earl, M.S. Biology, May 2018  
Demilade Adisa, M.S. Environmental Toxicology, May 2016  
Arete John Eigbe, M.S. Biology, May 2016  
Tommy Johnson, M.S. Biology, May 2016  
Jordan Pope M.S. Biology December 2015  
Hoda Eltayeb M.S. Biology, May 2015  
Jennifer Strong-Moseley M.S. Biology, May 2015  
Ivory Ellis M.S. Biology, May 2015  
Nkem Azu M.S. Biology, May 2014  
Imani Bethel, M.S. Biology, May 2014  
Angel Ryals, M.S. Biology, May 2014  
Olusegun Ogunniyi, M.S. Biology, May 2014  
Shawn Ledet M.S. Biology, August 2014  
Linda Noukeu, M.S. Biology, May 2013  
Amanda Henry, M.S. Biology, May 2013  
Tram Cao, M.S. Biology, May 2011  
Donielle Ford, M.S. Biology, May 2009  
Natalia Harmon, M.S. Environmental Toxicology, May 2008  
Torrye Hooper, M.S. Biology, May 2008.  
Brian Jones, M. S. Biology, May 2007.  
Joaquin Ramirez, M. S. Biology, December 2006.  
Kate Ledbetter, M. S. Environmental Toxicology, August 2006.  
Jennifer Walker, M. S. Biology, August 2006.  
Gulbanu Hashim, M. S. Biology, August 2006.  
Yasmeen Rizvi, M. S. Biology, December 2005.

#### ***Doctoral Student Committees***

Shaunte Hulett-Abdin, Ph. D., Environmental Toxicology, August 2019  
Peter Olamigoke, Ed. D., Education, August 2019  
Nissi Abraham, Ph. D., Environmental Toxicology, December 2018  
Marvin Johnson, Ed. D., Education, August 2018  
Everton Brown, Ph.D. Environmental Toxicology, August 2017  
Loretta Olamigoke, May 2017  
Nkem Azu Ph.D. Environmental Toxicology, May 2017  
Dickson Bisong, Ph.D. Pharmaceutical Science, May 2014  
Shelly McKinley, Ed. D., Education, August 2011.  
Christina Clemmons, Ph.D. Environmental Toxicology, August 2011.  
Andrea Oyewole, Ph.D. Environmental Toxicology, August 2009.  
Marilyn Evans, Ed. D., Education, December 2008.  
David Diehl, Ed. D., Education, December 2005.

## University Committees:

- Texas Southern University Committee for the Protection of Human Subjects, Member (former Chair)
- QEP Planning Committee
- Associate Editor The Explorer Newsletter
- Internal Advisory Board, NSF Center for Research on Complex Networks
- Internal Advisory Committee, DHS Scientific Leadership Award Grant- Maritime
- Ex officio COSET Enrollment and Retention Committee
- Ex officio COSET Web site committee
- Ex officio COSET Recognition and Scholarship committee
- Ex officio COSET Newsletter and Annual Report committee
- Ex officio COSET Events committee
- Ex officio COSET Grievance committee
- Co-Chair COSET Dean's Student Advisory Council
- Advisor COSET Student Ambassadors

## Community Interaction:

- Committee for the Protection of Human Subjects Workshop, Presenter October 18, 2012
- Faculty Advisor, Texas Southern University Chapter, Beta Kappa Chi Scientific Honor Society 2003 to 2007
- TSU Joint Admission Medical Program (JAMP) committee member, 2002 –2004.
- Mentor, McNair Scholars Program, Texas Southern, University, 2003-2007.
- Speaker, College of Science and Technology Roundtable, 2004.
- Speaker, Career Seminar Series, Bellaire High School, HISD, 2004.
- Co-Director, TSU Early Medical School Acceptance Program (EMSAP), 2002 – 2004.
- Speaker, Black History Month Program, Paul Revere Middle School, HISD, Houston, Texas 2002
- Mentor for Biology Science Project, Alejandra Serna, Pearland High School, Houston, Texas 2001
- Speaker, The Career Seminar Series, Baylor College of Medicine, Department of Molecular Physiology and Biophysics, "Undergraduate Teaching" 2001
- HISD Teachers Educational and Cultural Tour to Taiwan 2001
- Panel Committee Member, NIH Consensus Development Conference on Screening and Management for Phenylketonuria (PKU), 1999 to 2000
- Instructor, College of Continuing Education Project GRAD 1999
- Speaker, Career Day, 8th Avenue Elementary, HISD 1998

## Honors and Awards:

- 20<sup>th</sup> Year of Service Texas Southern University 2019
- Certificate of Appreciation, Health Occupations Students of America, 2015
- Dean's Leadership Award for outstanding contributions in Student Engagement, College of Science and Technology 2011
- Academic Award, Unity Adventist Worship Center 2007
- Honorary Member, Golden Key International Honour Society 2002
- Certificate, Science Advisor, Undergraduate Education Program for Minority Students, 41<sup>st</sup> Annual Meeting, Society of Toxicology, 2002
- Certificate, 16<sup>th</sup> Annual UTMB Undergraduate Research Symposium, Galveston, Texas 2002
- Finalist, Postdoctoral Clinical Category, American Society of Human Genetics Annual Meeting, New Orleans, Louisiana. 1993
- SURDNA Foundation Incentive Award for outstanding academic achievement, Meharry Medical College, 1985-1987.

## Grantmanship:

- NSF Research Grant for Molecular and Cellular Bioscience (13-510 ) application – submitted December 2016 – Not funded
- NSF Research Grant for Molecular and Cellular Bioscience (13-510 ) application – submitted January 2016 – Not funded
- NSF Proposal HRD 15-33586 - Implementation Project - Texas Southern University submitted January 2015 – Not funded
- Texas Southern University Office of Academic Affairs E-Learning Course Development Grant Recipient 2004 (\$5,000).
- Texas Southern University Research Centers Seed Grant Award 2003-2004 (\$3,900).
- Texas Southern University Research Centers Seed Grant Award 2002-2003 (\$14,200).
- Texas Southern University, Teacher of the Year Award 2001-2002, September 2002 (\$1,000).
- Minority Investigator Supplement (3 R01 HD22563) Molecular Genetics of Glycerol Kinase Deficiency (\$129,560), 1994-1997.

## Bibliography:

- Shishodia S, Azu N, Rosenzweig JA, **Jackson DA** (2015) Guggulsterone for Chemoprevention of Cancer. *Curr Pharm Des.* 2016;22(3):294-306.
- Long duration exposure to cadmium leads to increased cell survival, decreased DNA repair capacity, and genomic instability in mouse testicular Leydig cells. Singh P, Kumari R, Pevey C, **Jackson D**, and DuMond JW *Cancer Lett.* 279 (1) 2009 Jun: 84-92.
- DNA Diagnosis Confirms Hemoglobin Deletion in Newborn Screen Follow-up. Bhardwaj, U., Zhang, Y-H. , **Jackson, D. S.**, Buchanan, G.R., Therrell, B.L., McCabe, L.L., and McCabe, E.R.B. *J Pediatr.* 2003 Mar;142(3):346-8.
- Phenylketonuria (PKU): Screening and Management. NIH Consensus Statement 2000 October 16-18; 17(3): 1-33.
- Report of the NIH Consensus Development Conference on Phenylketonuria: Screening and Management, US Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute of Child Health and Human Development, January 2001.
- Unbiased analysis of the frequency of beta-thalassemia point mutations in a population of African-American newborns. **Sylvester-Jackson DA**, Page SL, White JM, McCabe HM, Zhang YH, Therrell BL Jr, McCabe ER. *Arch Pathol Lab Med.* 1993 Nov;117(11):1110-4.
- Genomic scanning for expressed sequences in Xp21 identifies the glycerol kinase gene. Guo W, Worley K, Adams V, Mason J, **Sylvester-Jackson D**, Zhang YH, Towbin JA, Fogt DD, Madu S, Wheeler DA., McCabe E R.B. *Nat Genet.* 1993 Aug;4(4):367-72.
- Characterization of a novel developmentally regulated gene from *Trypanosoma brucei* encoding a potential phosphoprotein. Wirtz E, **Sylvester D**, Hill GC. *Mol Biochem Parasitol.* 1991 Jul;47(1):119-28.
- A comparison of the amino acid sequences of *Crithidia fasciculata* and *Trypanosoma rhodesiense* cytochromes c. **Sylvester DA**, Hill GC. *J Parasitol.* 1990 Jun;76(3):445-7.

## Memberships:

- Beta Kappa Chi Scientific Honor Society
- Texas Association of Advisors for the Health Professions
- American Association for the Advancement of Science

## Reviewer:

- Brooker's Biology, 2nd edition (2009) McGraw-Hill Publishing

- Biology Today and Tomorrow (2005) Thomson Learning-Brooks/Cole
- Laboratory Manual, Biology 6e (2002), by Vodopich and Moore, McGraw-Hill Publishers
- Texas Science Explorer Grade 8, (2002), Prentice Hall Publishers

### **Dissertation:**

- Selective cloning and characterization of the *Trypanosoma brucei* cytochrome c gene. (1991)

### **Book Chapters:**

- Expression of mitochondrial and nuclear genes during differentiation of African trypanosomes. Hill, G.C., Benavides, G., Chaudhuri, S., and **Sylvester, D.** In: UCLA Symposia on Molecular and Cellular Biology New Series, Volume 42: Molecular Strategies of Parasitic Invasion. Eds: Agabian, Goodman, & Noguera. Alan R. Liss, Inc. New York (1987)

### **Abstracts and Research Presentations:**

- Interdisciplinary Programs presented at the 2012 Institute on Integrative Learning and the Departments, Burlington, Vermont, July 11-15, 2012
- The Effects of Pre- and Peri-Natal Exposure to Arsenic on Gene Expression in Fetal Rat Lung. Texas Southern University Annual Research Day, Student Presentation by Jorge Blanco. April, 2008.
- Effects of Pre-Natal Exposure to Arsenic on Gene Expression in Fetal Rat Kidney. Texas Southern University Annual Research Day, Student Presentation by Deshonta Holmes. April, 2006.
- Effect of Arsenic on Gene Expression in the Kidney: Evaluation of Pre-Natal and Post-Natal Exposure. Ronald E. McNair Post-Baccalaureate Achievement Program 4<sup>th</sup> Annual Research Symposium, Student Presentation by Claudia Aguillon. April 23, 2004.
- Effect of Arsenic on Gene Expression in the Liver: Evaluation of Pre-Natal Exposures to Sodium Arsenate. Ronald E. McNair Post-Baccalaureate Achievement Program 4<sup>th</sup> Annual Research Symposium, Student Presentation by Adan Carranza. April 23, 2004.
- Effect of Pre- and Post-Natal Exposures to Sodium Arsenate on Gene Expression: Preliminary Observations Regarding Fluid Uptake and Weight changes in Pregnant Rats. Texas Southern University Research Day, April 28, 2004.
- DNA testing for beta-thalassemia alleles: Implications for newborn screening and prenatal diagnosis. The Society for Pediatric Research Annual Meeting, May 7-11. 1995, San Diego, California
- Interpreting DNA results. Texas Department of Health, Newborn Screening Hemoglobinopathy Program, Pediatric Hematologist and Sickle Consultants Meeting, Austin, Texas, 1995.
- Hereditary persistence of fetal hemoglobin (HPFH): Rapid diagnosis of deletions involving the beta-globin gene by fluorescence in situ hybridization (FISH). *Pediatric Research* 35:107A (1994)
- Molecular genetic follow-up of newborn screening specimens: beta-thalassemia. Texas Department of Health, Newborn Screening Hemoglobinopathy Program, Pediatric Hematologist and Sickle Consultants Meeting, Austin, Texas, 1994
- Unbiased analysis of the frequency of beta-thalassemia point mutations in a population of African American newborns. *Am. J. Hum. Genet.* 53, Supplement: 1507, 1993.
- Confirmation of beta-thalassemia point mutations by automated direct sequencing from dried blood specimens in a population of African-American newborns. *Pediatric Research.* 33:134A, 1993.
- Allele specific oligonucleotide detection of individual beta-thalassemia point mutations in a population of African-American newborns. *Pediatric Research.* 33:287A, 1993.
- Beta-thalassemia defined by molecular genetics follow-up. Texas Department of Health, Newborn Screening Hemoglobinopathy Program, Pediatric Hematologist and Sickle Consultants Meeting, Austin, Texas, 1993.
- Rapid genomic scanning for expressed sequences: Application to the glycerol kinase region of Xp21. *Pediatric Research.* 33:130A, 1993.

- Identification of expressed sequences in the glycerol kinase genomic region of Xp21. The Society for Inherited Metabolic Diseases Annual Meeting, March 14-17, 1993, Asilomar, California.