BIOGRAPHICAL SKETCH

NAME: Romonia Renee Reams

eRA COMMONS USER NAME (credential, e.g., agency login):RREAMS

POSITION TITLE: Professor

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	Completion Date	FIELD OF STUDY
Grambling State University, Grambling LA	BA	1978	Biology
Brigham Young University, Provo, Utah	PhD	1984	Biochemistry
University of California, Los Angeles, CA	Postdoc	1984-86	Biochemistry

A. Personal Statement

In line with Florida A&M University's long-term goal of addressing health disparities, locally/ globally, and my professional goal to contribute to the elimination of prostate cancer health disparities nationally and globally, I am enthusiastic to serve as the Contact Principal Investigator for the CaRE2 Center @FAMU. It has been an ongoing privilege to work with the outstanding members of our U54 Triad CaRE2 Center and am confident that we have the collective expertise and commitment to make impactful scientific progress in addressing cancer disparities in Black, and Hispanic populations. My participation allow me to use my administrative skills and my scientific skills/knowledge in cancer genomic, bioinformatics to collaborate with our six CORE facilities and our three scientific project to make a difference in training the next generation of underrepresented Trainees .

R. Renee Reams, is a PhD, biochemist, prostate cancer health disparity researcher and tenured professor in the Florida A&M University's College Of Pharmacy and Pharmaceutical Sciences. She is also a founding member of the Prostate Transatlantic Consortia (CaPTC); whose members hold biennial conferences to discuss global state of prostate cancer research, community outreach successes and train prostate cancer advocates from Africa, Bahamas, UK and USA. In 2014, Reams became the Principal Investigator for the NCI P20 MiCaRT Center, a partnership grant with the University of Florida whose goal is to increase minority junior faculty and minority undergraduate student participation in cancer research. Reams has been principal investigator for other NIH grants such as the NIEHS ARCH grant and Director for the NIGMS MBRS (Minority Biomedical Research Program) at FAMU and she served as Research mentor on a DoD Undergraduate Summer Student ReTOOL program. Collectively, these experiences have prepared her to serve as contact Principal Investigator and Co-Investigator on Project #1 of this U54 CaRE2 Center grant. Reams was co-leader of a Cancer cluster special interest group for the NCI U54/RCMI translational research network (RTRN) whose membership met monthly to foster collaborative solutions for improving minority health and reducing ethnic and geographic disparities in cancer. Dr. Ream's research uses genomics/ Next generation sequencing and genotyping to hunt for genes/gene signature/SNPs that might explain the increased prostate cancer incidence and mortality observed in African American males. Reams was among the first to show that immune/inflammatory signatures exist within AA prostate patient tumors, these tumors were not observed in prostate tumors of White men

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a) Hu H, Odedina FT, **Reams RR**, Lissaker CT, Xu X.Racial Differences in Age-Related Variations of Testosterone Levels Among US Males: Potential Implications for Prostate Cancer and Personalized Medication. J Racial Ethn Health Disparities. 2015 Mar;2(1):69-76.

b) Xiao J, Cohen P, Stern MC, Odedina F, Carpten J, **Reams R**. Mitochondrial biology and prostate cancer ethnic disparity. Carcinogenesis. 2018 Dec 13;39(11):1311-1319. doi: 10.1093/carcin/bgy133.

c) Jones J, Mukherjee A, Karanam B, Davis M, Jaynes J, **Reams RR,** Dean-Colomb W, Yates C. African Americans with pancreatic ductal adenocarcinoma exhibit gender differences in Kaiso expression. Cancer Lett. 2016 Oct 1;380(2):513-22. doi: 10.1016/j.canlet.2016.06.025. Epub 2016 Jul 15.

d) **Reams RR,** Jones-Triche J, Chan OT, Hernandez BY, Soliman KF, Yates C. Immunohistological analysis of ABCD3 expression in Caucasian and African American prostate tumors. Biomed Res Int. 2015;2015:132981. doi: 10.1155/2015/132981. Epub 2015 Jan 31.

B. Positions and Employment

1984-86 Postdoctoral Fellowship, UCLA Molecular Biology Institute
1986-1991 Assistant Professor, Mount St. Mary's College, Los Angeles, CA
1991-1999 Assistant Professor, Florida A & M University College of Pharmacy
1999-2009 Associate Professor, Florida A & M University College of Pharmacy
2009-Present Professor, Florida A&M University, College of Pharmacy

Other Experiences and Professional Memberships

1992-2006 Program Administrator, HRSA Centers of Excellence Grant
1996-2000 Research Development & Training in Molecular Biology, Wayne State University
2000-2006 Principal Investigator- NIEHS/ARCH Grant
Didactic Prostate Cancer Training for FAMU faculty trainees by Moffitt Cancer Center Mentors; Web-based Prostate Cancer Course offered by Moffitt Cancer Center Research mentors

2004 Disparities in Health in America: Working toward Social Justice, Telecast
Topics in Genomics, Telecasted to FAMU from Prairie View A&M University In Collaboration with MD Anderson Cancer Center (Course Coordinator at FAMU)
2006 Interim Director for FAMU-Moffitt Center for Minority Prostate Cancer Training & research while Director (Odedina) on sabbatical leave from Florida A&M Univ.
2008-Present NIGMS/NIH Minority Biomedical Research Support (MBRS) Director/FAMU
2008-Present Organizer of the Annual Florida A&M University Student Research Forum (a university wide scientific research poster competition)
2008 Presided, "Global State Of Prostate Health in Men of African Descent" Presentations
2008 & 2006 Chairperson and Mistress of Ceremonies for the FAMU Biennial Cancer Congress
2010-Present Scientific Program Chair & Planning Committee Member, the Science of Global Prostate Cancer Disparities (Biennial Conferences: 2010/2012/2014
2011 2011 AACR Minority-Serving Institution Faculty and Minority Scholars in Cancer Research: Invited Dinner Speaker: Awards Dinner:
2011 Member, Florida's Health Disparities Research Council
2011 Workshop on Prostate Cancer in Men of African Descent: Opportunities for Global Collaborations, NIH Campus, Bethesda, October 6th-7th, 2011.
2011-Present Presenter, AORTIC Cancer Advocacy Conference, November 28, 2011, Cairo, Egypt
2012 Co-Chair: Planning Committee for the 2nd Biennial Science of Global Prostate Cancer Disparities in Black Men to be held November 1-4, 2012, Nassau, and The Bahamas
2014 Co-Chair: Planning Committee for the 3rd Biennial Science of Global Prostate Cancer Disparities in Black Men to be held November 2014 Montego Bay, Jamaica
2016 Co-Chair: Planning Committee for the 4th Biennial Science of Global Prostate Cancer Disparities in Black Men to be held November 2016, UF College of Pharmacy; Lake Nona, Orlando, Florida
2018 Chair of Educational Training, 5th Biennial Science of Global Prostate Cancer Disparities in Black Men held November 2018 in Lagos, Nigeria
2020 Co-Chair CaPTC Education Program, 6th Biennial Science of Global Prostate Cancer Disparities in Black Men to be held November 2020 in Barcelona, Spain

Selected Honors:

- 2015 NIMHD Scholar: Translational Health Disparities Course at NIH, Bethesd**a**

- 2013 FAMU Research Excellence Award
- 2013 AORTIC Conference Travel award
- 2009, 2007 AORTIC Conference Travel Award
- 2008 & 2007, AACR Minority Serving Institution Faculty Scholar Travel Award
- 2007 AACR, The Science Of Health Disparity Satellite Meeting Minority Faculty Travel Award
- 2008-2009; 2007-2008, American Society of Cell Biology Minority Affairs Committee
- 2016 CAPTC Educator Award, 5^{4th} Biennial Science of Global Prostate Cancer Disparities in Black Men Conference, in Lake Nona, Orlando, Florida

C. Contributions to Science

1. My early research as a junior faculty focused on metal induced neurotoxicity to better understand what really constituted safe exposure levels for humans. Our studies focused individually on Pb-induced neurotoxicity and on Mn induced neurotoxcity because while lead was being removed from gasoline, manganese was being added to gasoline and thus via exhaust was increasing human exposure. We asked the questions does low levels of Pb(lead) and/or Manganese cause neurotoxic effects in model neuronal cell lines. Our lab showed that Growth factor-induced neurite outgrowth was enhanced in the presence of divalent lead (Pb). Pb enhanced activation via the Ras-MEK-Erk cascade. This finding suggested that the mechanism of lead neurotoxicity which leads to cognitive deficits o occurs by an ERK-dependent signaling pathway. (Williams, T, 2000).

   In 2012-2013, we published results of an ATS/DR cooperative agreement environmental toxicology health program that investigated the effect of Manganese in human neuronal cells. Exposure of divalent Manganese to human neuronal cells resulted in Mn-induced oxidative DNA damage. Collaboration with investigators at National Institute of Standards helped us to determine the nature of the DNA damage. Our results definitively showed that Mn caused lesions in Thymine bases. Both Glutathione and NAC could attenuate these Mn-induced lesions (Stephenson, 2013a). In a follow up study, we determined that the Mn-induced thymine lesions occur due to Mn-induced defects in the base excision repair pathway. *These findings imply that persons with defects in the base excision repair pathway are more susceptible to Mn-induced damage* (Stephenson, 2013b)

   a) Stephenson AP, Mazu TK, Miles JS, Freeman MD, **Reams RR,** Flores-Rozas H *Defects in base excision repair sensitize cells to manganese in S. Cerevisiae*. Biomed Res Int. 2013: 2013: 295635
   b) Stephenson AP, Schneider JA, Nelson BC, Atha DH, Jain A, Soliman KF, Aschner M, Mazzio E, **Renee Reams R.** *Manganese-induced oxidative DNA damage in neuronal SH-SY5Y cells: attenuation of thymine base lesions by glutathione and N-Acetylcysteine*. Toxicol Lett 2013 Apr 26: 2183(3): 299-307.
   c) Taka E, Mazzio E, Soliman KF, **Renee Reams** R. Microarray genomic profile of mitochondrial and oxidant response in manganese chloride treated PC12 cells. Neurotoxicology. 2012 Mar;33(2):162-8. doi:

2. After being invited to submit a pilot project for the DoD-funded FAMU/Mofffit Prostate Cancer Training Center and attending my first ever AACR meeting; I was enamored with cancer research and the bench to bedside talks that I heard. So in 2004, my research expanded to include prostate cancer field. My first project was to use gene expression profiling to better understand the disparity in prostate cancer incidence and mortality in African American (AA) Men compared to all other ethnic groups. Our studies begin hunting for gene signatures that were differentially expressed in AA relative to Caucasian. Our study revealed two things: (1) an immune/inflammatory signature in AA tumors, but not observed in EA tumors; (2) 95 genes differentially expressed in AA compared to CA (Caucasian). Notable in this gene list were HDAC, PR. Gene ontology suggested that Interleukins were overrepresented (Reams, 2009). We used informatics to interrogate our 95 genes by SNP analysis using a GWAS scan and found statistically significant ABCD3 variants were associated with AA prostate tumors. In this same paper, we also show that ABCD3 expression is highest in the African American cell line, MDA-PCa-2b, when compared to PC3, LNCaP and DU145 (Reams, 2011). We posed the question, is ABCD3 a putative biomarker for prostate cancer progression and in our 2013 publication (Reams, 2013), revealed that ABCD3 expression correlates with increased Gleason score. Collectively, these studies show for the first time, the involvement of the ABCD3 gene in prostate cancer and suggest that ABCD3 functional role in prostate cancer progression and

aggressiveness should be further explored. Our first ever patent, was for prostate cancer methods and compositions which indicated that elevated ABCD3 expression correlates with tendency for tumors to metastasize.

e) Reams RR, Jones-Triche J, Chan OT, Hernandez BY, Soliman KF, Yates C. *Immunohistological analysis of ABCD3 expression in Caucasian and African American Prostate Tumors.* Biomed Res Int 2015:
f) Reams RR, Kalari KR, Wang H, Odedina FT, Soliman KF, Yates C. Detecting Gene-Gene interactions in prostate disease in African American men. Infect Agent Cancer. 2011 Sep 23;6 Suppl 2:S1. doi: 10.1186/1750-9378-6-S2-S1. Epub 2011 Sep 23.
g) Reams RR, Agrawal D, Davis MB, Yoder S, Odedina FT, Kumar N, Higginbotham JM, Akinremi T, Suther S, Soliman KF. *Microarray comparison of prostate tumor gene expression in African American and Caucasian American Males: a pilot study*. Infect Agent Cancer. 2009 Feb 10;4 Suppl 1:S3. doi: 10.1186/1750-9378-4-S1-S3.

Complete list to published work in My Bibliography:
http://www.ncbi.nlm.nih.gov/pubmed/?term=reams+rr

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

NIH/NCI U54CA233396
09/19/2018-08/31/2023
Romonia Renee Reams, Contact Principal Investigator
1/3 Florida California Cancer Research, Education and Engagement (CaRE^2) Health Equity Center

NIH/NCI 2U54MD007582-34A1
08/2019-07/2024,
Karam Soliman, Ph.D, Contact Principal Investigator
Romonia Renee Reams, PhD, Director of Career Enhancement Program
FAMU Center for Health Disparities Research
Florida Agricultural & Mechanical University, Tallahassee

Research Support Completed During the Last Three Years

NIH/NCI 1P20CA192990 1 of 2 **(Reams, FAMU PI)** 09/22/14 – 08/31/19
The Florida Minority Cancer and Research Training (MiCaRT)
The goal is to increase the number of FAMU faculty who are actively engaged in prostate cancer health disparities research in Florida. This is a NCI P20 partnership grant between Florida A&M University and the University of Florida.

G12 MD007582 NIH NIMHD (Soliman, K.) 06/01/13-05/31/18
(RCMI) Research Centers in Minority Institutions (RCMI) Neurodegeneration Core
Role: Research Investigator
The major goals of this application are to establish Neurodegeneration Research Program (NRP), to enhance the infrastructure in this area of research at Florida A&M University and to increase research productivity of its faculty.

(W81XWH-11-PCRP-STPA) (Odedina, F.) 2015-2018
DoD Collaborative Undergraduate HBCU Student Summer Training Program Award
Role: Reams: HBCU Faculty Advisor