

BIOGRAPHICAL SKETCH

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NAME: Myron Keith Gibert Jr

eRA COMMONS USER NAME (credential, e.g., agency login): MGIBERT123

POSITION TITLE: Predoctoral Student

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Hampton University, Hampton VA	B.S.	05/2016	Cellular and Molecular Biology
University of Virginia, Charlottesville VA	M.S.	12/2018	Biological and Physical Sciences
University of Virginia, Charlottesville VA	Ph.D.	Anticipated 2022	Microbiology, Immunology, and Cancer Biology

A. Personal Statement

My scientific research interests include the fields of cancer biology, bioinformatics, and data science. Like many, my first major exposure to the field was through the cancer diagnosis of a loved one. My current interests are a result of my direct interest in cancer biology and a lifelong love of computer science. After completing my Ph.D., I plan to further my education in data science. I will then seek a career in academia as a principal investigator at a research institution.

I have chosen this career because I believe that I have the ambition, ability, and resilience required for this type of work. I've always set lofty goals for myself, and this has allowed me to achieve **many successes**. In high school, I was my class's Valedictorian and an Eagle Scout. As an undergraduate, I was a MARC Scholar, HHMI Fellow, and William R. Harvey Leadership Fellow. At the graduate level, I have achieved funding through our cancer training grant and a U01 diversity supplement. I am also an appointee to the UVA School of Medicine Diversity Consortium. However, I am not only the sum of my successes. I have also had **major failures** at each stage of my career as well. It took me three years to progress through one rank as a Boy Scout due to repeated failure of the swimming test. As an undergrad, I had one particularly brutal semester where I achieved my lowest GPA ever (2.2). During this time, I also experienced the end of a long term high school relationship. As a graduate student, I failed my first attempt at my comprehensive/qualifying exam. These experiences have given me healthy interactions with failure. My foundation of success has provided me with ambition and confidence. My foundation of failure has provided me with the perseverance and resiliency.

My current thesis work concerns the effects of non-coding RNAs on the initiation and progression of glioblastoma (GBM). These non-coding RNAs represent 98% of transcribed genes, have broad regulatory roles, are deregulated in cancer, and remain understudied. Of the non-coding RNAs, my lab focuses on long non-coding RNAs (lncRNAs) and microRNAs (miRNAs). My job is to determine what functional role, if any, they play in GBM. For each functional phenotype, I will also attempt to identify the mechanism of action. I am integrating cutting edge molecular and computational techniques to achieve these ends. **This project aims to provide additional understanding of the initiation and progression of GBM.**

My professional goals also extend beyond my thesis research. I am also interested in diversity, equity, and inclusion (DEI) in STEM, scientific advocacy, and leadership. **I identify as a person of color (POC)** and an

underrepresented minority (URM). People of color represent ~34% of the US population, yet we only represent ~10% of all scientists. In 2018, 1% of all funded RO1 awardees identified as POC. To begin to change this, **I am a member of several organizations with DEI initiatives.** These include the UVA School of Medicine Diversity Consortium, the Graduate Recruitment Initiative Team (GRIT), the Organization for Underrepresented Students (OURs), the Graduate Biosciences Society Council (GBS), and the Black Graduate Student and Professional Organization (BGSPo). **I have also taken several steps to establish myself as an advocate for science and as a leader.** I have participated in many advocacy events at UVA. I am also establishing a website to advocate for causes that I am passionate about. I am one of the four percent of Boy Scouts to reach the rank of Eagle. Only 1% of these Eagle Scouts are of African-American ancestry. I have a minor in Leadership Studies from the William R. Harvey Leadership Institute. I also manage a team of three undergraduates in the lab while we work on the same project. **These experiences have helped me develop soft skills that will be useful as a scientist.**

B. Positions and Honors

Occupation	Start Date MM/YYYY	End Date MM/YYYY	Field	Institution/Company	Supervisor/Employer
Undergraduate Research Assistant	06/2014	07/2014	Cancer Biology, Breast Cancer	Georgetown University	Mary Beth Martin, Ph.D.
Undergraduate Research Assistant	09/2014	05/2016	Cancer Biology, Bioinformatics	Hampton University	Luisel Ricks-Santi, Ph.D.
Undergraduate Research Assistant	05/2015	08/2015	Cancer Biology, Immunology	University of Virginia	Amy Bouton, Ph.D.
Graduate Research Assistant	01/2017	Present	Cancer Biology, Glioblastoma	University of Virginia	Roger Abounader, MD-Ph.D.

Academic and Professional Honors

- Maximizing Access to Research Careers (MARC) Scholar, 2015-2016
- NIH NRSA T32 Cancer Training Grant, 2017-2018
- HHMI Gilliam Fellowship Finalist, 2017
- Biomedical Sciences graduate program representative to the University of Virginia School of Medicine Diversity Consortium, 2018-Current Date

C. Contributions to Science

Research Summary

Location: **Lombardi Cancer Center at Georgetown University**

Title: *Role of Calcium Channels in Androgen Receptor Positive Triple Negative Breast Cancer*

Mentor: Dr. Mary Beth Martin/Dr. Brandy Huderson

Dates: June 2014 – August 2014, August 2015

Presented: N/A

Project Summary:

Lab techniques were used to analyze the effects of different treatments on triple negative breast cancer cells (MDA-MB-231/453). These cells were believed to have an active androgen receptor, so the effects of

manipulating the androgen receptor and calcium channels were tested using RT-PCR and growth assays. A mammosphere assay was also performed to confirm that the MDA-MB-231s were differentiated from stem cells.

Location: Hampton University Cancer Research Center

Title: *Examining Allele Frequency Differences in Variants for DNA Repair Genes between Populations*

Mentor: Dr. Luisel Ricks-Santi/Dr. John McDonald

Dates: October 2014 – June 2016

Presented: 2015 Hampton University Research Day (Poster), 2015 AACR National Meeting (Poster)

Project Summary:

Bioinformatics tools (RStudio, The International HapMap Database, the Variant Effect Predictor, Mutation Mapper, DAVID) were used to analyze variant allele frequencies (SNPs) in DNA repair genes to determine how they affect cancer disparities and the incidence/mortality rates of cancers within the affected populations. (Poster abstract can be provided upon request)

Location: University of Virginia

Title: *Examining the Roles of FAK and Pyk2 on Monocyte Differentiation*

Mentor: Dr. Amy Bouton/Dr. Ryan Llewellyn

Dates: May 2015 – August 2015

Presented: 2015 SRIP Presentations (Oral), Hampton University Senior Thesis (Oral)

Project Summary:

Project consisted of looking at the role of focal adhesion kinase (FAK) and proline-rich tyrosine kinase 2 (Pyk2) on monocyte-macrophage differentiation using genetic models and pharmacological treatments. FAK and Pyk2 are kinases that have known effects on differentiation and motility in many cells, though their effects are not as well understood in macrophages. Various techniques were used to analyze the effects on genetic deletion or pharmacological inhibition of FAK and Pyk2 on monocyte-macrophage differentiation with respect to morphology, differentiation state, and cytokine production.

Location: University of Virginia

Title: *Uncovering the role for transcribed ultra-conserved regions as long non-coding RNAs in glioblastoma*

Mentor: Dr. Roger Abounader

Dates: January 2017 – (Ongoing)

Presented: 23rd Annual Hampton University Research Symposium (Oral and Poster)

Project Abstract:

Glioblastoma (GBM) is the most common and most deadly malignant brain tumor. Most GBM research has focused on protein-coding genes and much less on non-coding transcripts that make up 98% of cellular RNA. Transcribed Ultra-Conserved Regions (TUCRs) represent an understudied class of long non-coding RNAs (lncRNAs) that are found conserved across multiple species. These non-coding transcripts are highly resistant to variation and are commonly deregulated in cancer, suggesting regulatory and functional importance. We performed a first time analysis of TCGA RNA-Seq data and identified 194 TUCRs that are differentially expressed relative to normal brain and 235 that correlated with patient survival. This project aims to identify, prioritize and validate TUCRs that are differentially expressed and to uncover the functions, mechanism of action, and therapeutic targeting of select TUCR lncRNAs in GBM. To achieve these aims, lncRNAs will be prioritized according to their differential expression, correlation with survival, and genomic location. To uncover the functions of candidate TUCRs, they will be overexpressed or knocked down and analyzed for malignancy parameters in vitro and in vivo. To elucidate the mechanisms of action of select candidate TUCRs, their predicted structure and binding partners will be determined followed by functional rescue experiments. Successful completion of this project would represent the first comprehensive analysis of TUCRs in GBM and generate new knowledge on the mechanisms of GBM malignancy.

Publications

- Zhang, Y. et al. The p53 pathway in glioblastoma. *Cancers (Basel)*. Vol 10: Issue 9. 2018
- Cruickshanks, N. et al. Discovery and therapeutic exploitation of mechanisms of resistance to MET inhibitors in glioblastoma. *Clinical Cancer Research*. 1-11. 2018
- Cruickshanks, N. et al. Role and therapeutic targeting of the HGF/MET pathway in glioblastoma. *Cancers (Basel)*. Vol 9: Issue 7. 2017 <<http://www.mdpi.com/2072-6694/9/7/87>>

- Gibert Jr, Myron K. Cancer metabolism. Journal of the Minority Science Apprentice. Vol 8: Issue 1. March 2014 <http://docs.hamptonu.edu/student/5917-jmsa_online_2014_20140415154204.pdf>

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

Current Research Support

U01 Diversity Supplement through the following:

NIH U01 CA220841 (Abounader) 07/01/2017-06/30/2022 3.6 CM

“Master Regulatory MicroRNAs in Glioblastoma”

GOAL: To uncover, investigate and therapeutically exploit microRNAs that target multiple deregulated molecules in glioblastoma.

Hampton University (Undergraduate) 3.27 GPA

Year	STEM Course Title	Grade	Year	Non-STEM Course Title	Grade
2011	Intro to Biology I	TS*	2011	Written Communication I & II	TS*
2011	Statistics	TS*	2011	World Civilizations I & II	TS*
2011	Biology Elective	TS*	2011	Intro to Literature I	TS*
2011	Intro to Psychology	TS*	2011	Health Education	A-
2011	Pre-Calculus	TS*	2011	Humanities I	B-
2011	Intro to Biology-Honors	A	2011	Foundation of Leadership Study	A-
2011	Calculus I-Honors	A-	2011	Individual and Life-Honors	A-
2012	General Botany-Honors	B	2012	Humanities II	B
2012	Intro to Computers	A	2012	Practices and Tools of Leadership	A
2012	Calculus II	WP*	2012	Oral Communication	C+
2012	General Zoology-Honors	A-	2012	Leadership in Organizations	A
2012	General Chemistry I	A	2012	Beginning Bowling	A
2013	General Microbiology	A-	2013	Leadership in Context	A
2013	Principles of Heredity-Honors	B-	2013	Beginning Tennis	A
2013	General Chemistry II	B	2013	Ethics & Leadership	A+
2013	Human Growth and Development	A-	2014	Elementary Spanish	B
2013	Organic Chemistry I	B	2014	Service Internship	A+
2013	Organic Chemistry II	B-	2014	Leadership and Policy	A+
2013	Cancer Epidemiology	A-	2014	Intermed Spanish I	B
2013	Elementary Biochemistry I	C+	2015	Senior Leadership Seminar	A
2013	Intro to Physics I	A-	2015	Spanish for Health Sciences	B
2013	Intro to Physics Lab I	A-			
2014	Gene Expression and Control	C-			
2014	Elementary Biochemistry II	C-			
2014	General Calculus	C+			
2014	Intro to Physics II	C+			
2014	Intro to Physics Lab II	B-			
2014	Seminar I	A			
2014	Research Seminar	A			
2014	Research Problems	A-			
2014	Cell Biology	A-			
2015	Gene Expression and Control	B			
2015	Elementary Biochemistry II	A-			
2015	Calculus II	C+			
2015	Human Anatomy	B			
2015	Research Problems	A			
2015	Research Seminar	C			
2015	General and Cellular Physiology	C+			
2015	Graduate Biochemistry I	A-			
2016	Research Problems	A			

2016	Senior Seminar II	A			
2016	Research Seminar	A-			
2016	Biochemistry II	B			
2016	Differential Equations	F			

*TS = Transfer Credit/AP Exam, WP = Withdraw Passing

University of Virginia (Graduate) 3.45 GPA

Year	Course Title	Grade	Year	Course Title	Grade
2016	Integrative Biosciences	A-	2016	Topical Research	A
2016	Non-Topical Research	S*	2017	Cancer Signaling and Therapeutics	B-
2017	Fundamentals in Cancer Biology	B-	2017	Topical Research	A-
2017	Microbiology Colloquium	A	2017	Research Ethics	S*
2017	Microbiology Seminar	S*	2017	Non-Topical Research, Doctoral	S*
2017	Advanced Topics in Cancer	A	2018	Non-Topical Research, Doctoral	S*
2018	Intro Biomedical Data Science	B+	2018	Basics of Design and Stats	C-

*S = Satisfactory