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South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program

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14. ABSTRACT

Background: There is a severe shortage of diverse biomedical scientists in the United States and in South Carolina. The goal of the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program is to provide a biomedical research training experience to **14** underserved students (*i.e.*, “*Student Fellows*”) from three Historically Black Colleges/Universities – Claflin University, South Carolina State University, and Voorhees College over a three-year period. The major goals of the Training Program are: Goal 1.) To provide training in biomedical and prostate cancer research through the participation of four Student Fellows each year in a newly developed 15 credit hour prostate cancer health equity research course; Goal 2.) To conduct a hands-on research laboratory intensive with four Student Fellows each year. Each Student Fellow will complete a 10-week research project; Goal 3.) To provide the Student Fellows with clinical, cultural, and biotechnical learning opportunities through clinical shadowing experiences with physicians and/or other allied health care professionals; observations of a multidisciplinary prostate cancer tumor board; lay navigation shadowing in the clinical setting to gain experiences in the cultural and social context of prostate cancer treatment/survivorship issues; and interacting with biotechnical experts within the HCC shared resources/courses (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics); Goal 4.) To prepare tangible scientific products through extended mentoring with the Student Fellows such as scientific abstracts and research papers summarizing their prostate cancer research. **Results:** Over the course of the grant period, **14** Student Fellows were identified, recruited to participate in the program, and admitted to the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program. The Student Fellows were matched with Research Mentors at MUSC, with whom they conducted research with each summer. Each Student Fellow prepared a scientific paper, gave a scientific presentation at the end of the summer program, and completed a 7-week Princeton Review Graduate Record Examination Test Preparation Course. **Conclusions:** State-of-the art comprehensive prostate cancer research education and training opportunities were provided to **14** Student Fellows from HBCUs in South Carolina. Each Student Fellow prepared a scientific paper and gave at least one scientific presentation. Additionally, **61** additional Student Fellows were supported by leveraged funds. A cadre of developing scientists who are becoming well-prepared to conduct research spanning the continuum from basic science to clinical science to population-based research was developed.

15. SUBJECT TERMS

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Prostate Cancer Health Equity Research
Student Fellows from Historically Black Colleges and Universities (HBCUs)

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INTRODUCTION

Background

The South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program (referred to as the SC CHEC Program) will provide a biomedical research training experience to 14 students from three Historically Black Colleges/Universities (HBCUs) – Claflin University (CU), South Carolina State University (SCSU), and Voorhees College (VC) over a four-year period (2015-2019). Undergraduate students from the three HBCUs (defined as Student Fellows) will participate in research-intensive summer internships in the laboratories/research units of senior prostate cancer research scientists at the Medical University of South Carolina Hollings Cancer Center (MUSC HCC).

The didactic component of the 10-week SC CHEC Program includes an introduction to research on cancer disparities and prostate cancer. The SC CHEC Program also encompasses additional exposure to biomarker development, genetics, survivorship issues, and developmental therapeutics through shadowing experiences in the MUSC HCC's clinics, shared resources/cores, and greater interaction with the Sea Island/Gullah population of South Carolina. The ultimate goal of the SC CHEC Program is to increase the diversity of emerging scientists who may choose prostate cancer research careers in the basic, clinical, and population sciences.

Major Goals:

- Goal 1: To provide training in biomedical and prostate cancer research through the participation of four Student Fellows each year in a newly developed 15 credit hour prostate cancer health equity research course.
- Goal 2: To conduct a hands-on research laboratory intensive with four Student Fellows each year. Each Student Fellow will complete a 10-week research project.
- Goal 3: To provide the Student Fellows with clinical, cultural, and biotechnical learning opportunities through clinical shadowing experiences with physicians and/or other allied health care professionals; observations of a multidisciplinary prostate cancer tumor board; lay navigation shadowing in the clinical setting to gain experiences in the cultural and social context of prostate cancer treatment/survivorship issues; and interacting with biotechnical experts within the HCC shared resources/courses (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics).
- Goal 4: To prepare tangible scientific products through extended mentoring with the Student Fellows such as scientific abstracts and research papers summarizing their prostate cancer research.

Impact: Measurable outcomes of the SC CHEC Program will include the number of Student Fellows who take the Graduate Record Examination (GRE), apply to graduate school, and complete scientific presentations and publications based on their summer research projects. Efforts will also be made to evaluate long-term SC CHEC Program outcomes such as the number of Student Fellows who choose to pursue a medical or biomedical focused graduate and postgraduate career.

Program Director and Leadership Team

Dr. Marvella E. Ford served as the Program Director. Drs. Omar Bagasra (CU) and Judith Salley (SCSU), and Mrs. Gayle Tyler-Stukes (VC) served as the Associate Directors. Dr. Leroy Davis retired from Voorhees College in 2016 and appointed Mrs. Gayle Tyler-Stukes, former SC CHEC Program Faculty Advisor at Voorhees College, to take his place as Associate Director. In 2019, Dr. Alexandra Proctor replaced Ms. Gayle Tyler-Stukes as the Associate Director at Voorhees College. This four-person leadership team collaborated closely through the management and administration of the award, as well as the development and enhancement of the SC CHEC Program. The Program Director and Associate Directors share scientific interests in health disparities, serve in other leadership roles within their institutions, and meet frequently, both formally and informally. Each institution has appointed Faculty Advisors consisting of Dr. Ewen McLean (CU) and Dr. James B. Stukes (SCSU). Additionally, Ms. Erica Martino (MUSC) served as the Program Coordinator of the SC CHEC Program.

KEYWORDS: Prostate Cancer Research Training Program, Prostate Cancer Health Equity Research, Student Fellows from Historically Black Colleges and Universities (HBCUs)

BODY

Statement of Work

In efforts to achieve the program goals, the following tasks and deliverables were prioritized and completed each grant year, over the course of the entire 2015-2019 grant period.

Task 1. Identify and Recruit the Student Fellows

(Months 1-3 of each grant year)

- (a) Identify the pool of potential Student Fellows
- (b) Interview the potential Student Fellows and select the best candidates
- (c) Notify the selected Student Fellows of their acceptance into the Training Program
- (d) Match the selected Student Fellows with their MUSC Research Mentors

Deliverables: Student Fellows (plus the additional students who were supported using leveraged funds) were identified, recruited to participate in the SC CHEC Program, and matched with senior prostate cancer Research Mentors at MUSC.

Task 2. Provide Training in Biomedical and Prostate Cancer Research through a Newly Developed Prostate Cancer Health Equity Research Course and Laboratory Research Training Experience

(Months 6-8 of each grant year)

- (a) Conduct a short-term education course in Prostate Cancer Health Equity Research
- (b) Provide a short-term Laboratory Research Training Experience
- (c) Sponsor the Student Fellows' participation in a Graduate Record Examination (GRE) Preparation Course

Deliverables: We provided cutting-edge comprehensive prostate cancer health equity research education and training opportunities for the students from three of South Carolina's HBCUs (plus the additional students who were supported using leveraged funds). We have developed a cadre of biomedical scientists who are well-prepared to contribute to future scientific discoveries related to prostate cancer screening, diagnosis, and treatment. Their research will span the spectrum from basic science to clinical science to population-based research. Nine Student Fellows from the 2015-2019 grant period took the GRE and five students took the Medical College Admission Test (MCAT). Additionally, 13 Student Fellows from the 2015-2019 grant period applied to graduate school and 12 Student Fellows enrolled in a graduate school.

Task 3. Prepare Tangible Scientific Products through Extended Mentoring with the Student Fellows

(Months 10-12 of each grant year)

- (a) Student Fellows will prepare and present scientific abstracts based on their prostate cancer research
- (b) Student Fellows will prepare research papers summarizing their prostate cancer research

Deliverables: Twenty-Four scientific presentations were conducted by the 14 DoD funded Student Fellows who participated in the Program from 2015-2019. One peer reviewed publication resulted from the mentored research conducted during the program. Several other scientific manuscripts are in progress.

Task 4. Provide Student Fellows with Clinical, Cultural, and Biotechnical Learning Opportunities

(Months 6-8 of each grant year)

- (a) Conduct a clinical shadowing experience with physicians and/or other allied health care professionals
- (b) Provide an opportunity for Student Fellows to observe a multidisciplinary prostate cancer tumor board

- (c) Offer lay navigation shadowing to provide experiences in the cultural and social contextual dynamics surrounding prostate cancer treatment/survivorship issues within the clinical setting
- (d) Provide interactions with biotechnical experts within the Hollings Cancer Center shared resource/cores (e.g., Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics)

Deliverables: Fourteen Student Fellows, plus the additional students who were supported by other sources of funding (to be described later in the report), rotated through the Hollings Cancer Center Shared Resources/Cores.

Task 5. Evaluate the Training Program

- (a) Assess the number of applicants to the Training Program (*Months 1-3 of each grant year*)
- (b) Count the number of Student Fellows who apply to graduate school and the number who are admitted to graduate school (*Months 1-12 of each grant year*)
- (c) Identify the number of scientific abstracts presented and peer-reviewed publications that result (*Months 1-12 of each grant year*)
- (d) Survey the Student Fellows, Research Mentors, Principal Investigator, and Faculty Advisors at the end of each summer to provide feedback (*Month 9 of each grant year*)

Deliverables: Formative and summative evaluation of the SC CHEC Program has been completed.

KEY RESEARCH ACCOMPLISHMENTS

Task 1. Identify and Recruit the Student Fellows

(Months 1-3 of grant year)

- (a) Identify the pool of potential Student Fellows**
- (b) Interview the potential Student Fellows and select the best candidates**
- (c) Notify the selected Student Fellows of their acceptance into the Training Program**

To accomplish Tasks 1(a) – 1(c), Dr. Ford, the Program Director, held teleconferences with Associate Directors Dr. Omar Bagasra (CU), Dr. Judith Salley (SCSU), and Dr. Alexandra Proctor (VC) as well as Faculty Advisors Dr. Ewen McLean (CU) and Dr. James Stukes (SCSU) to identify potential Student Fellows and discuss student recruitment techniques. To attract students to the SC CHEC Summer Program from the partnering institutions, the SC CHEC team developed a recruitment flyer each year (**See Appendix A**) providing a description of the program and highlighting program details. This flyer was distributed to the SC CHEC leaders at the partnering institutions, who disseminated them among their faculty and students and personally approached students whom they felt would be outstanding applicants for the summer research program. Moreover, Dr. Ford, visited the partnering institutions to inform the faculty about the SC CHEC summer program and to recruit students.

To further attract a pool of potential applicants, each Associate Director invited faculty and students from his/her institution to participate in the Ernest Just Symposium held at MUSC in February of each year. Throughout the course of the grant, a total of 971 students representing 21 different colleges and universities participated. A total of 210 students from HBCUs in SC participated in the Symposium over the 2015-2019 time period. Drs. Bagasra and McLean from CU were instrumental in recruiting 120 students to attend the Symposium from Claflin University over the 2015-2019 time period. Additionally, Drs. Salley was instrumental in recruiting 20 student to attend the Symposium from South Carolina State University over the 2015-2019 time period. The students who participated in the Symposium also received a tour of scientific research units at MUSC and met with MUSC faculty members who could become their future research mentors. The Ernest Just Symposium agendas and the total number of participating students from each institution over the 2015-2019 grant period is included in **Appendices B-C**.

Each year an SC CHEC page was created on the MUSC Hollings Cancer Center website to advertise the SC CHEC Program (<http://www.hollingscancercenter.org/about-hollings/commitments/SC-CHEC/index.html>; **see Products** for an example of the most recent recruitment flyer). The online application portal opened in the early fall of each year and closed in the early spring of the following year. After each student application was reviewed by the Program Director and Associate Directors, students were accepted based on the following criteria: 1) Minimum GPA of 3.0; 2) Rising Junior or Senior; 3) Two letters of recommendation; 4) University Transcript; 5) Personal Statement indicating a desire for a research career; 6) Willingness to complete the entire 10-week SC CHEC Program.

(d) Match the Student Fellows with their Research Mentors at MUSC

Once selected, each of the Student Fellows were matched with research mentors at MUSC. The Leadership Team examined the expressed research interests of the Student Fellows as stated in their written SC CHEC applications and matched the students' stated research interests with those of available MUSC mentors, based on information contained in the mentors' biosketches. Upon matching, Dr. Ford sent an email to each mentor that contained descriptive information pertaining to their selected Student Fellow.

Task 1 Deliverables: The DoD funded Student Fellows (plus the additional students who were supported using leveraged funds) were identified, recruited, and admitted to the SC CHEC Program. The Student Fellows were matched with MUSC Research Mentors, with whom they conducted research each summer.

Task 2. Provide Training in Biomedical and Prostate Cancer Research through a Newly Developed Prostate Cancer Health Equity Research Course and Laboratory Research Training Experience (Months 6-8 of grant year)

(a) Conduct a short-term education course in Prostate Cancer Health Equity Research

Each program year the Student Fellows participated in an intensive, 10-week SC CHEC Program comprised of didactic training and hands-on laboratory research training. The curriculum of this program was designed around the previously implemented prostate cancer-focused cancer research training lectures and expanded to include a larger focus on breast, cervical, and head and neck cancer. This allowed the Student Fellows to experience a broader cancer research training program.

The SC CHEC Cancer Health Equity Research Course (BMTRY 777) is a fifteen-hour credit course comprised of six modules. Module 1 focused on the social determinants of cancer in the US, Module 2 provided training in the responsible conduct of research, Module 3 focused on breast cancer research, Module 4 covered prostate cancer research, Module 5 introduced head and neck cancer research, and Module 6 covered cervical cancer research. Student Fellows received instruction from leading experts in cancer research who collectively presented cutting-edge cancer information across multiple perspectives – basic sciences, clinical sciences, and population sciences with an emphasis on disparate outcomes in breast, prostate, head/neck, and cervical cancer. Each module concluded with a take-home quiz based on the scientific content that was presented during the module to evaluate the Fellows’ understanding of the information presented in each module. The 10-week course curriculum is included in **Appendix D**.

To foster the professional development of the Student Fellows, the lectures included discussions of funding opportunities available to students, career opportunities in academic medicine, perspectives of prostate cancer among community members, and strategies for effective presentations. In addition, the Student Fellows participated in etiquette training to gain the tools needed to successfully navigate through their professional careers.

The Student Fellows were given articles at the beginning of the course describing how to run a successful Journal Club. The Journal Club sessions were designed to help the Fellows think critically about research. Each Student Fellow participated in leading a module-based Journal Club session. The Fellows worked in teams to read the assigned original research articles critically, review the design of each study, and present topics for discussion, including but not limited to issues related to measurement, study design, sampling scheme, recruitment, retention, loss to follow-up, statistical approaches, and interpretation of results. The Journal Club assignments are included in **Appendix E**.

In addition, each Fellow completed an 8- to 10-page paper, due on the last day of the course, summarizing their research experience. The Fellows also presented their research to the local scientific community and completed a formal written evaluation of the entire course. The SC CHEC Program schedule provided time for students to rehearse their research presentations and gain input from their mentors and other scientists at the HCC.

Student Fellows participated in a cultural enrichment experience to expose them to the Sea Island (Gullah) population. The Gullah population is a subpopulation of African Americans indigenous to the coastal regions of the eastern seaboard. They are one of the most genetically homogeneous groups of blacks in the U.S. Their particularly low rate of European American genetic admixture makes this a unique population for basic, clinical

and population-based research. The Fellows participated in a guided tour to learn about the Gullah language, culture, and music.

(b) Provide a short-term Laboratory Research Training Experience

The Student Fellows were matched with Research Mentors at MUSC based on their research areas of interest stated on their applications. The Student Fellows worked ~30-35 hours per week with their assigned mentors conducting research. The research mentors helped to shape the Student Fellows' summer experiences to ensure tangible outcomes – presentation of data results (preliminary or final), and submission of scientific abstracts and papers for peer review. The hands-on training involved learning/performing laboratory techniques, data collection and analytic methods, interviewing techniques, and data interpretation.

The following table shows the names of each of the DoD funded who participated in the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program over the grant period, their Research Mentors at MUSC, and their research topics.

Summer 2015 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Students, Mentors, and Research Topics			
Student Name	Academic Institution	MUSC Research Mentor	Research Topic
Ms. Kadeidre Gaymon	SC State University	Marvella E. Ford, PhD	Evaluating Rates of Overweight/Obesity and Physical Activity in a Diverse Sample of South Carolina Cancer Survivors
Ms. Casseanna Holmes (Dual Year Participant 2014/2015)	Voorhees College	Danyelle Townsend, PhD	Impact of Antioxidant Enzymes on Breast Cancer Patients: An Evaluation of Triple Negative and Receptor Expression
Mr. Malik Leach	Voorhees College	David P. Turner, PhD	The Contribution of AGEs to Tamoxifen Resistance
Ms. Ludy Martinez	Claflin University	Shikhar Mehrotra, PhD	The Immunosuppressive Ability of Myeloid Derived Suppressor Cells on T Cells

Summer 2016 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Students, Mentors, and Research Topics
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Student Name	Academic Institution	MUSC Research Mentor	Title of Research Project
Ms. Jordan Barnes	Claflin University	Besim Ogretmen, PhD	A study on the relationship of the presence of Human Papilloma Virus and response to treatment in cervical cancers
Ms. Taaliah Campbell	Claflin University	Shikhar Mehrotra , PhD	Vitamin C and Immunotherapy
Ms. London Knight	SC State University	Dennis Watson, PhD	Friend Leukemia Integration 1 (FLI1) as a contributor to tumor aggression in malignant peripheral nerve sheath tumors and neurofibromas through an interaction with Ras regulation
Ms. Kenyatta Walker	SC State University	David Turner, PhD	The Impact of Reactive Sugar Metabolites on Pubertal Mammary Gland Development and Increased Cancer Risk

Summer 2017 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Students, Mentors, and Research Topics			
Student Name	Academic Institution	MUSC Research Mentor	Title of Research Project
Ms. Rosaline Achiangia	Voorhees College	Brandon Welch, PhD	Review of Web-based Family Health History Tools
Ms. Taaliah Campbell	Claflin University	David Turner, PhD	Defining the Effects of a High AGE Diet on Mammary Development During Puberty
Ms. Nakea Pennant	SC State University	Shikhar Mehrotra, PhD	Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract
Ms. Kenyatta Walker	SC State University	Kathleen Cartmell, MPH, PhD	Perceptions About HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents

Summer 2018 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Students, Mentors, and Research Topics			
Student Name	Academic Institution	MUSC Research Mentor	Research Topic

Mr. Daniel Farquarson	Claflin University	Patrick Woster, PhD	CD38 Inhibition and Up Regulation of the Immune System
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Summer 2019 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Students, Mentors, and Research Topics			
Student Name	Academic Institution	MUSC Research Mentor	Research Topic
Ms. India Eady	Claflin University	Danyelle Townsend, PhD	Heme-Oxygenase 1 Levels in Lung Cancer Patients
Ms. Reagan Hill	Claflin University	Erin McClure, PhD	Motivation for Tobacco Cessation in Adolescents

In addition to the students listed above, the Program Director leveraged other extramural federal grant funding to support 61 additional students who participated in the Program in 2015-2019 (**Appendix F**).

(c) Sponsor the Student Fellows’ participation in a Graduate Record Examination (GRE) Preparation Course

During the summers of 2015-2019, 75 Student Fellows (14 supported by the DoD award and 61 supported by leveraged funds) took the 7-week Kaplan or Princeton Review GRE Test Preparation Course. Both Kaplan and Princeton Review provide test preparation materials for more than 90 standardized tests through tutoring, on-site classes, print books, and digital content for college and graduate school admissions. The course met for three hours once a week during each summer. The course seamlessly adjusted classwork and homework to the skill level of each student. This was accomplished by focusing on the areas where each student needed the most improvement. The course provided instruction in test-taking skills, and provided opportunities for dynamic group discussions and collaborative drills.

Task 2 Deliverables: From 2015-2019, state-of-the art comprehensive prostate cancer research education and training opportunities were provided for 14 students from three of South Carolina’s HBCUs. Funds were leveraged from other funding sources to provide the same level of education and training to 61 additional students from partnering institutions in South Carolina. We are developing a cadre of scientists who are well-prepared to play a significant role in discovering and testing new prostate cancer biomarkers. In the future, these investigators will likely conduct research spanning the continuum from basic science to clinical science to population-based research.

Task 3. Prepare Tangible Scientific Products through Extended Mentoring with the Student Fellows (Months 10-12 of grant year)

(a) Student Fellows will prepare and present scientific abstracts based on their prostate cancer research

(b) Student Fellows will prepare research papers summarizing their prostate cancer research

Each Student Fellow prepared a scientific research paper that will form the basis of a peer-reviewed publication and also gave a scientific presentation based on the results of his or her work. Summaries of each Student Fellows' research projects are included in **Appendix G**. Please note that the biological mechanisms that are included in the Student Fellows research have direct relevance/application to prostate cancer research.

Task 3 Deliverables: A total of 24 scientific presentations based on their summer cancer research projects were presented by the 14 DoD Student Fellows.

Task 4. Provide Student Fellows with Clinical, Cultural, and Biotechnical Learning Opportunities
(Months 6-8 of grant year)

- (a) Conduct a clinical shadowing experience with physicians and/or other allied health care professionals**
- (b) Provide an opportunity for Student Fellows to observe a multidisciplinary prostate cancer tumor board**
- (c) Offer lay navigation shadowing to provide experiences in the cultural and social contextual dynamics surrounding prostate cancer treatment/survivorship issues within the clinical setting**
- (d) Provide interactions with biotechnical experts within the Hollings Cancer Center shared resource/cores (*e.g.*, Cancer Genomics, Proteomics, Biorepository & Tissue Analysis, Flow Cytometry & Cell Sorting, Cell & Molecular Imaging, and Lipidomics)**

For SC CHEC course electives, the Student Fellows rotate through the MUSC HCC Shared Resource Core Facilities, giving them insight into the multifaceted aspects of biomedical research and the provision of assistance the Shared Resources offer to HCC members. These electives occur for one hour on Fridays. The Fellows were placed into five groups, with each group having a separate Shared Resource rotation schedule to allow for interactive contact with the Shared Resource members. The schedule and groups from 2015-2019 are included in **Appendix H**.

Task 4 Deliverables: From 2015- 2019, 14 DoD Student Fellows and 61 Student Fellows supported by leveraged funds from other extramural federal grants rotated through the Hollings Cancer Center Shared Resources/Cores.

Task 5. Evaluate the Training Program

- (a) Assess the number of applicants to the Training Program**

From 2015-2019, 14 applicants were selected as Student Fellows and funded through the DOD South Carolina Collaborative Undergraduate HBCU Student Summer Training Program. An additional 61 Student Fellows who were supported through other federal funding mechanisms were selected from 2015-2019. (Appendix F).

(b) Count the number of Student Fellows who apply to graduate school and the number who are admitted to graduate school

Over the course of the 2015-2019 grant period, 14 DoD funded Student Fellows participated in the training program. The three DoD funded Student Fellows who participated in the 2018 and 2019 Program are currently juniors and seniors at their academic institutions. Therefore, it is too early to report their accomplishments at this time.

However, we are employing the three strategies listed below to continue to monitor the student's progression through their academic careers. Of the remaining 11 Student Fellows who participated in the training program from 2015- 2017, one student's academic accomplishments are unknown. However, the 10 other Student Fellows have graduated from their undergraduate institutions.

Therefore, over 90% of the Student Fellows from 2015-2017 have completed their undergraduate degrees (as stated above, the 2018-2019 program participants are still enrolled at their respective undergraduate academic institutions). Of the 10 Student Fellows who have graduated from college, seven are in the process of applying to graduate and/or professional schools and three have already applied to graduate and/or professional school. Of these three students, two are currently enrolled into a graduate and/or professional school. Of these two students, one is enrolled in a Doctor of Osteopathic Medicine Program at Edward College of Osteopathic Medicine and the other is enrolled in a Biological Sciences PhD Program at Clark Atlanta University.

1. Searching the MUSC graduate program databases to identify whether any of the students applied, were offered, or accepted positions at MUSC.
2. Contacting the participating universities' alumni offices.
3. Employing other internet-based search tools/communications (Google, LinkedIn, Facebook, and Historically Black College/University Connections, etc.) to identify students' current locations, contact information, and academic achievements

We have implemented several steps for tracking student scientific progress. Communication and assistance from the Associate Directors and Faculty Advisors have proved to be very effective. Additionally, social media tools such as Facebook have also been useful for engaging the students and opening a venue for communication. Another method we have found useful is text messaging. We have found that students respond more quickly to text messages than to emails and telephone calls. We will utilize and build upon these methods to improve continued student tracking. These multiple tracking strategies will be used to update the table that is included in **Appendix I**, which lists the academic accomplishments of the Student Fellows.

(c) Identify the number of scientific abstracts presented and peer-reviewed publications that result

The fourteen 2015-2019 DoD funded Student Fellows gave 24 scientific presentations.

- One DoD- funded student from Claflin University, Ms. Ludy Martinez, presented her scientific research at the Annual Biomedical Research Conference for Minority Students on November 11, 2015- November 14, 2015 in Seattle, Washington.
- Additionally, another DoD-funded student from Claflin University, Ms. Taaliah Campbell, presented her scientific research at the Annual Biomedical Research Conference for Minority Students on November

1, 2017- November 4, 2017 in Phoenix, Arizona. The following publication was a result of Ms. Taaliah Campbell's summer research:

- o Randise, J. F., Krisanits, B. A., Nogueira, L. M., Helke, K. L., **Campbell, T., Findlay, V. J., & Turner, D. P.** Dietary-AGE ingestion during puberty modifies the breast microenvironment to alter mammary gland development: Linking diet, development and breast cancer risk. American Association for Cancer Research, 2018; 78(13).

The mentors of many additional Student Fellows have confirmed that they are actively writing manuscripts that will include some of the Student Fellows as co-authors.

(d) Survey the Student Fellows, Research Mentors, Principal Investigator, and Faculty Advisors at the end of each summer to provide feedback

In 2015, the SC CHEC Leadership created an instrument for the SC CHEC Mentors to evaluate the program from the perspective of the mentors. The cumulative results from the 2016-2019 SC CHEC Program Research Mentors are included in **Appendix J**.

Task 5 Deliverables: The Student Fellows gave 24 scientific presentations. Three of the Student Fellows applied to graduate school and two of the Student Fellows are currently in graduate school. Many of the other Student Fellows will enter their junior or senior years of college and will begin applying to graduate or professional schools. The SC CHEC Program Research Mentors had positive things to say about the SC CHEC Program and provided positive feedback to enhance the program for future cohorts.

IMPACT/REPORTABLE OUTCOMES

Student Summer Research Summaries

The SC CHEC Program is playing a key role in training the next generation of cancer disparities researchers. Prior to this program, some of the Student Fellows had no experience in conducting cancer disparities research. The SC CHEC Program provides a wonderful opportunity for the students embrace careers in this arena.

The South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program will help to address the problem of the gross underrepresentation of diverse students in the pool of US biomedical research scientists despite the fact that historically underrepresented groups are the most rapidly growing portion of the US population and experience a disproportionate burden of cancer morbidity and mortality.

The SC CHEC Cancer Health Equity Course and GRE training that are provided through the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program are expected to facilitate:

- The Student Fellows' entry into graduate degree programs
- The Student Fellows' transition from graduate programs to postdoctoral fellowships
- The Student Fellows' appointment in their first independent scientific positions
- The award of the Student Fellows' first independent research grants from the NIH or from an equivalent scientific source
- The Student Fellows' receipt of tenure awarded in an academic or non-academic setting

All of the 2015- 2019 Student Fellows who participated in the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program each prepared a research paper and gave a scientific

presentation to his/her peers, mentors and other faculty at MUSC. Details regarding the manuscripts and scientific presentations developed by the Student Fellows are included in **Appendix I**.

CHANGES/PROBLEMS

There are not changes or problems to report.

PRODUCTS

Several products have resulted during the current grant award period.

- A cancer research curriculum was developed. Additionally, an online course was developed, with an expected launch date of Fall 2020.
- Inter-institutional relationships among the four partnering institutions (MUSC, CU, SCSU, and VC) were strengthened.
- An SC CHEC Program page was created on the Hollings Cancer Center website. This website provides information about the SC CHEC Program, *i.e.*, program goals, SC CHEC Leadership, Student Fellow pictures, summer research titles, and Student Testimonials). The page also contains the application portal. The website is below.
 - o <http://www.hollingscancercenter.org/about-hollings/commitments/SC-CHEC/index.html>
- Five cohorts of DoD-funded Student Fellows were trained to conduct cancer research.
- The Student Fellows received formal instruction in the history and culture of the unique Sea Island/Gullah population of South Carolina.
- Several research mentors are writing manuscripts and will include their Student Fellows as co-authors, based on their substantial scientific contributions completed during their summer research training projects.

PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS

The individuals listed in the table below have worked on the project during the reporting period for at least one person month per year.

NAME	
Marvella E. Ford, PhD	No Change
Erica Martino, CHES	No Change
Kimberly Cannady, PhD	Has Taken Another Position within the Medical University of South Carolina

In addition to the three partnering institutions – CU, SCSU, and VC – we have partnered with the Palmetto Medical, Dental, and Pharmaceutical Association. The list of partner organizations is below.

1.

Organization Name	Clafin University
Location of Organization	400 Magnolia Street

	Orangeburg, South Carolina 29115
Partner's Contribution to the Project	Collaboration

2.

Organization Name	South Carolina State University
Location of Organization	300 College Street NE Orangeburg, South Carolina 29115
Partner's Contribution to the Project	Collaboration

3.

Organization Name	Voorhees College
Location of Organization	481 Porter Drive Denmark, South Carolina 29042
Partner's Contribution to the Project	Collaboration

4.

Organization Name	Palmetto Medical, Dental, and Pharmaceutical Association
Location of Organization	South Carolina
Partner's Contribution to the Project	Other: In addition to the four partnering institutions, a new partner is the Palmetto Medical, Dental, and Pharmaceutical Association (PMDPA). This organization recently invited the Leadership Team to give a presentation describing the SC CHEC Program during their annual statewide convention. The PMDPA was established in 1896. It serves as South Carolina's auxiliary branch of the National Medical Association. In this capacity, the PMDPA provides seminars and workshops for diverse health care professionals to ensure that these professionals achieve their annual CME/CE requirements for continued certification. Additionally, the PMDPA maintains a strong focus on educating and training the next generation of diverse health care professionals. This mission overlays with the mission of the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program. Therefore, the leaders of the PMDPA have pledged to work with the Leadership Team to help identify applicants who could participate in future years of the SC CHEC Program.

SPECIAL REPORTING REQUIREMENTS

N/A.

CONCLUSIONS

During the four years of funding for the South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program, the tasks outlined in the Statement of Work were successfully met. Fourteen Student Fellows were recruited from CU, SCSU, and VC. Additional extramural federal funds were leveraged to support 61 additional students. Each Student Fellow conducted research and prepared a research paper that was presented at the conclusion of the program. These 75 Student Fellows are now trained to conduct cancer research and some are expected to be included as co-authors on future peer-reviewed scientific publications, based on their summer research projects.

Final Report Appendices

Appendix A: 2016-2019 SC CHEC Program Advertisement Flyers

The utilization of recruitment flyers began in 2016. Therefore, a flyer was not included in the 2015 training program.



2016 Summer Undergraduate Cancer Research Training Opportunity

You are invited to participate in an exciting 13-week, summer research training program where you will learn from the nation's leading cancer researchers and receive hands-on training at the Medical University of South Carolina Hollings Cancer Center. You will be exposed to the latest advances in biomedical and biobehavioral cancer research spanning basic, clinical, and population sciences with an emphasis on cancer disparity dynamics in South Carolina.



Program Description

- 13 week program (May 16, 2016 — August 12, 2016)
- Transferable credit hours
- Hands-on research experience with faculty member
- Cultural awareness activities
- GRE prep course
- Competitive stipend
- Housing available

Location: Medical University of South Carolina, Charleston, SC

Application Opens: **November 30, 2015**

Deadline: **February 19, 2016**

To Apply: <https://kcannady.wufoo.com/forms/zrg5yr2156ofci/>

For more information, please contact:

Marvella Ford, PhD, Program Director, fordmar@musc.edu

Kimberly Cannady, PhD, Program Coordinator, cannadyk@musc.edu





2018 Summer Undergraduate Cancer Research Training Opportunity

You are invited to participate in an exciting 10-week, summer research training program where you will learn from the nation's leading cancer researchers and receive hands-on training at the Medical University of South Carolina Hollings Cancer Center. You will be exposed to the latest advances in biomedical and biobehavioral cancer research spanning basic, clinical, and population sciences with an emphasis on cancer disparity dynamics in South Carolina.



Program Description

- 10 week program (May 29, 2018 — August 3, 2018)
- Cancer Health Equity Research Course
- Transferable credit hours
- Hands-on research experience with faculty member
- Cultural awareness activities
- GRE prep course
- Competitive stipend

Location: Medical University of South Carolina, Charleston, SC

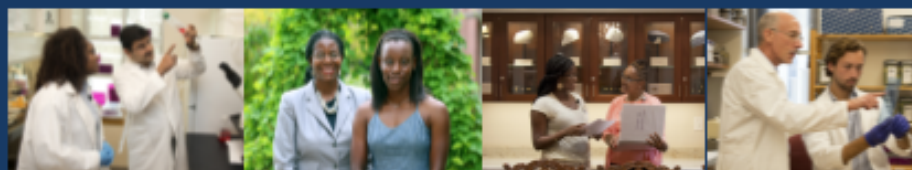
Application Opens: **October 31, 2017**

Deadline: **February 15, 2018**

To Apply: <https://kcannady.wufoo.com/forms/wty8g3p1ksejw8/>

For more information, please contact:
 Manella E. Ford, PhD, Program Director, fordmar@musc.edu
 Erica Martino, CHES, Program Assistant, martinoe@musc.edu





2019 Summer Undergraduate Cancer Research Training Opportunity

You are invited to participate in an exciting 10-week, summer research training program where you will learn from the nation's leading cancer researchers and receive hands-on training at the Medical University of South Carolina Hollings Cancer Center. You will be exposed to the latest advances in biomedical and biobehavioral cancer research spanning basic, clinical, and population sciences with an emphasis on cancer disparity dynamics in South Carolina.



Program Description

- 10 week program (May 27, 2019 — August 2, 2019)
- Cancer Health Equity Research Course
- Transferable credit hours
- Hands-on research experience with faculty member
- Cultural awareness activities
- GRE prep course
- Competitive stipend

Location: Medical University of South Carolina, Charleston, SC

Application Opens: October 5, 2018

Application Deadline: February 1, 2019

To Apply: <https://kcannady.wufoo.com/forms/p14a8ysl0d99soo/>

For more information, please contact:

Marvella E. Ford, PhD, Program Director, fordmar@musc.edu

Erica Martino, CHES, Program Coordinator, martinoe@musc.edu



Appendix B: 2015-2019 Ernest E. Just Symposium Agendas

ERNEST E. JUST

Ernest Everett Just (1883–1941) was born and raised in a family of dockworkers in Charleston, SC. He left to prepare for college at the Industrial School of State College in Orangeburg and the Kimball Hall Academy, NH. Subsequently, he graduated in 1907 from Dartmouth College, magna cum laude, Phi Beta Kappa, with honors in botany, history, and sociology. That same year, Dr. Just accepted a teaching post at Howard University, where he later advanced to the rank of full professor and head of the Department of Physiology. In 1909, he served as a summer research assistant at the Marine Biological Laboratory at Woods Hole, MA. In 1915, his research attracted the attention of the National Association of the Advancement of Colored People, who conferred upon him the first Spingarn Medal, an annual prize given to an outstanding African-American. In 1916, Ernest Just received his PhD in experimental embryology, magna cum laude, from the University of Chicago, with a dissertation on the mechanics of fertilization. In 1919, he worked at the marine biological laboratories in Naples and Sicily.

Dr. Just's achievements earned him the role of adjunct researcher at the Kaiser Wilhelm Institute für Biologie in Berlin-Dahlem (1920–1931) as the Julius Rosenwald Fellow in Biology of the National Research Council. A gift from the Rosenwald Fund to Just for \$80,000 annually for several years offered him protected time for research and graduate teaching. So significant was his work that several of the crowned heads of Europe offered him use of their laboratories.

Dr. Just eventually returned to Woods Hole, where he spent almost twenty years at the research bench. In 1924, he was selected by leading German biologists to write a treatise on fertilization, one of a series of monographs by experts on cell structure and function.

Dr. Just coauthored *General Cytology* (published in 1924) and contributed to a series on colloid chemistry. He was vice president of the American Zoological Society, a member of the Ecological Society, National Research Council, and La Société Nationale Des Sciences Naturelles Et Mathématiques, the founder of Omega Psi Phi and faculty advisor at Howard University (1911); Editor of *Protoplasm*, *Biological Zoology*, and *Physiological Zoology*; and a collaborator for *Cytologia*. In 1930, Dr. Just lectured at the 11th International Congress of Zoologists, Padua, Italy, basing his talk on his fifty published papers. In 1936, he spent three years on *The Biology of the Cell Surface*, a book summarizing his scientific observations. In 1939, early in WWII, Dr. Just was captured in France by Germans and held briefly in a prisoner-of-war camp. In 1940, he returned to the U.S. planning to resume teaching at Howard University. Unfortunately, an illness, which proved to be cancer, intervened and Dr. Just succumbed to his disease in 1941.

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For more information contact:

Dr. Titus Reaves reaves@musc.edu

Phone: 843-876-2411 Website: <http://academicdepartments.musc.edu/grad/ernestjust/>

Ernest E. Just Scientific Symposium Medical University of South Carolina



Friday, February 27, 2015
110 Drug Discovery Auditorium



8:00-9:00 am	Registration and Breakfast Drug Discovery Lobby
9:00-9:10 am	Opening Mark Sothmann, Vice President for Academic Affairs and Provost, MUSC Deborah Deas, M.D., Interim Dean, College of Medicine Professor of Psychiatry and Behavioral Sciences, MUSC
	Greeting Jacqueline McGinty, Ph.D. Interim Dean, College of Graduate Studies Professor of Neuroscience, MUSC
9:10-9:40 am	"The Ernest Path: The Grit and Determination of Dr. Just's Early Life" Mary Just Adér, M.P.H., M.P.P. Granddaughter of Ernest Everett Just Senior Advisor for Government Relations at Kaiser Permanente University of California Berkeley
9:40 – 10:20 am	Just Symposium Keynote Speaker "Computation-based Protein Engineering with Applications in the Life Sciences" Stephen Mayo, Ph.D. Bren Professor of Biology and Chemistry William K. Bowes Jr. Leadership Chair Division of Biology and Biological Engineering California Institute of Technology
10:20 – 10:35 am	BREAK
10:35– 11:00 am	"To Connect or Not Connect: Understanding the Multifaceted Role of Beta 3 Intergrin in the Heart" Dorea Pleasant, Ph.D. Candidate Department of Medicine Division of Cardiology Medical University of South Carolina

Simon Conway, Ph.D., F.A.H.A.

Dr. Simon Conway received his Ph.D. in Genetics from University College London and completed his postdoctoral studies at Great Ormond Street Children's Hospital, England. He has received several awards including a March of Dimes Starter Scholar, International Society for Heart Research Young Investigator, an IUPUI Outstanding Faculty and Staff, and is a Fellow of the American Heart Association, serves as a NHLBI Study Section Charter Member and sits on 4 editorial boards. He has published over 150 peer-reviewed articles and chapters relating to his research investigating the genetic, molecular and cellular causes of birth defects, premature birth, and approaches to prevent infant mortality. His basic research seeks to uncover novel therapeutic approaches for the diagnosis and treatment of pediatric patients.

Erica Herzog, M.D., Ph.D.

Dr. Herzog received her Bachelor and M.D. degrees from the University of North Carolina at Chapel Hill. After completing her residency in Internal Medicine at Mount Sinai Medical Center in New York, New York, Dr. Herzog came to Yale to pursue a fellowship in Pulmonary and Critical Care Medicine. During this time she also obtained her Ph.D. in Investigative Medicine from Yale's Graduate School of Arts and Sciences. Following her graduation in 2005, Dr. Herzog became a faculty member in the Department of Internal Medicine in 2006, first as an Instructor and then as Assistant Professor. Dr. Herzog's laboratory focuses on the relationship between chronic inflammation, neuronal guidance proteins, and lung fibrosis in a variety of fibrosing lung diseases including IPF, scleroderma and sarcoidosis. Her work has been published in high impact journals including Science, Science Translational Medicine, American Journal of Respiratory and Critical Care Medicine, and FASEB Journal. She is the recipient of numerous awards including a Parker B. Francis Fellowship, the Mallinckrodt Award, and the Translational Research Award from the Department of Medicine at Yale.

ERNEST E. JUST

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Dr. Just's achievements earned him the role of adjunct researcher at the Kaiser Wilhelm Institute für Biologie in Berlin-Dahlem (1920–1931) as the Julius Rosenwald Fellow in Biology of the National Research Council. A gift from the Rosenwald Fund to Just for \$80,000 annually for several years offered him protected time for research and graduate teaching. So significant was his work that several of the crowned heads of Europe offered him use of their laboratories.

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For more information contact:

Dr. Titus Reaves reaves@musc.edu

Phone: 843-876-2411 Website: <http://academicdepartments.musc.edu/grad/ernestjust/>

Ernest E. Just Scientific Symposium Medical University of South Carolina



Friday, February 26, 2016
110 Drug Discovery Auditorium



8:00-9:00 am	Registration and Breakfast Drug Discovery Lobby
9:00-9:10 am	Opening Darlene Shaw, Ph.D. , Associate Provost for Educational Affairs and Student Life Professor of Psychiatry and Behavioral Sciences Deborah Deas, M.D. , Interim Dean, College of Medicine Professor of Psychiatry and Behavioral Sciences Greeting Paula Traktman, Ph.D. Dean, College of Graduate Studies Hirschmann Endowed Professor Professor of Biochemistry & Molecular Biology Professor of Microbiology & Immunology
9:10-9:20 am	Paul Adams, Ph.D. Associate Professor of Chemistry and Biochemistry Associate Professor of Cellular and Molecular Biology University of Arkansas, Fayetteville <i>"Greetings from Omega Psi Phi Fraternity Representative"</i>
9:20 – 9:50 am	W. Malcolm Brynes, Ph.D. Associate Professor of Biochemistry and Molecular Biology Howard University <i>"Ernest E. Just Broad Influence on the Development of Modern Biology"</i>
9:50 – 10:10 am	Rose Ndeto, Ph.D. Candidate Department of Biochemistry Medical University of South Carolina <i>"FTY20 Induces Necroptosis by Regulating Ceramide Signaling at the Plasma Membrane"</i>

Joseph V. Bonventre, M.D., Ph.D.

Dr. Bonventre received his M.D. from Harvard Medical School in Boston, Massachusetts and his Ph.D. from Harvard University in Cambridge, Massachusetts. Dr. Bonventre is Chief of the Renal Unit and Chief of the Bioengineering Division at Brigham and Women's Hospital, Past-President of the American Society of Nephrology, and has had a long-standing interest in various aspects of cellular injury and repair mechanisms in the kidney with a special emphasis on the role of inflammation, biomarkers and stem cells. Recently, he demonstrated the role of proximal tubule cell cycle arrest in the maladaptive fibrosis that can occur after severe injury leading to chronic kidney disease. Dr. Bonventre's work has been cited more than 38,000 times and he has received two MERIT awards from NIH.



THE 2017 ERNEST E. JUST SYMPOSIUM FEBRUARY 24, 2017 DRUG DISCOVERY AUDITORIUM

WWW.MUSC.EDU/GRAD/JUST/



8:00 – 8:30 am	Registration and Breakfast
8:30 – 8:40 am	Opening Lisa K. Saladin, P.T., Ph.D. Interim Provost Professor of College of Health Professions Greeting Donna Kern, M.D. Senior Associate Dean for Medical Education Associate Professor of Medicine Paula Traktman, Ph.D. Hirschmann Endowed Professor Dean, College of Graduate Studies Professor of Biochemistry & Molecular Biology Professor of Microbiology & Immunology
 8:45 – 9:05 am	Stephen P. Ethier, Ph.D. Director, Center for Genomic Medicine Professor of Medicine Medical University of South Carolina <i>"Genomics and Genetics in the Era of Precision Medicine"</i>
 9:10 – 9:35 am	William Richard Jeffery, Ph.D. Professor of Biology University of Maryland <i>"E.E. Just: Establishing the Axis of Symmetry During Embryonic Development"</i>
 9:40 – 9:55 am	LaShardai Brown Ph.D. Candidate Department of Pathology and Laboratory Medicine Medical University of South Carolina <i>"Macrophages Contribute to Auditory Nerve Refinement by Regulating Glial Cell Numbers in the Postnatal Mouse Cochlea"</i>
10:00 – 10:30 am	Presentations of The E.E. Just Undergraduate Awards for Excellence in Research
10:30 – 10:40 am	Break
 10:40 – 11:25 am	<u>Ernest E. Just Symposium Keynote Speaker</u> Charles Modlin, M.D., M.B.A. Kidney Transplant Surgeon and Urologist Founder and Director, Minority Men's Health Center Associate Professor of Surgery at the Glickman Urological & Kidney Institute Section of Renal Transplantation Cleveland Clinic <i>"The Making of an African American Kidney Transplant Surgeon & Urologist Dedicated to Substantively Innovating Ways to Improve Health Outcomes in Minority Populations"</i>
11:30 – 12:00 pm	Panel Discussion (Q&A with Speakers)
 12:00 – 1:00 pm	Ernest E. Just Guest Lecture 112 Bioengineering Building Christine Garcia, M.D., Ph.D. Kern and Marnie Wildenthal President's Research Council Professorship in Medical Science Eugene McDermott Center for Human Growth and Development, Internal Medicine UT Southwestern Medical Center <i>"Retinoic Acid Controls Urothelial Progenitors During Development, Homeostasis and Regeneration"</i>
12:00 – 3:00 pm	Educational Sessions/Lunch Visiting students meet with the MUSC College Admissions Officers
3:00 – 4:00 pm	Table Discussions • How to choose a mentor in science and medicine careers • Personal statement (what not to include) • Public health issues • Professional ethics • Applying to graduate school
4:00 pm	RECEPTION (refreshments will be served)

For more information contact: Mrs. Keisha Vaughn brownkn@musc.edu, Dr. Titus A. Reaves reaves@musc.edu
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THE 2018 ERNEST E. JUST SYMPOSIUM FEBRUARY 23, 2018 DRUG DISCOVERY AUDITORIUM

WWW.MUSC.EDU/GRAD/JUST/



8:00 – 8:30 am	Registration and Breakfast
8:30 – 8:40 am	Opening David Cole, M.D., FACS President, Medical University of South Carolina Professor of Surgery Greeting Raymond Dubois, M.D., Ph.D. Dean, College of Medicine Professor of Biochemistry & Molecular Biology Professor of Medicine Paula Traktman, Ph.D. Hirschmann Endowed Professor Dean, College of Graduate Studies Professor of Biochemistry & Molecular Biology Professor of Microbiology & Immunology
8:45 – 9:05 am	 Candi S. Jump, D.O. Assistant Professor of Pediatrics Medical University of South Carolina <i>"Diet and the Pathogenesis of Diseases: A Pediatric Gastroenterologist's Perspective"</i>
9:10 – 9:35 am	 Stuart Newman, Ph.D. Professor of Cell Biology and Anatomy New York Medical College <i>"Physics and Chemistry in a New Dimension: E.E. Just's Legacy in Evolutionary Developmental Biology"</i>
9:40 – 9:55 am	 Brandon Young Ph.D. Candidate Department of Biochemistry & Molecular Biology Medical University of South Carolina <i>"Investigating the Molecular Mechanism of Cephalosporin-Resistance in Neisseria Gonorrhoeae"</i>
10:00 – 10:30 am	Presentations of The E.E. Just Undergraduate Awards for Excellence in Research
10:30 – 10:40 am	Break
10:40 – 11:25 am	 <u>Ernest E. Just Symposium Keynote Speaker</u> Susanne B. Nicholas, M.D., Ph.D. Associate Professor of Medicine Ronald Reagan UCLA Medical Center <i>"A Strategy to Address CKD Disparities in African Americans"</i>
11:30 – 12:00 pm	Panel Discussion (Q&A with Speakers)
12:00 – 1:00 pm	 <u>Ernest E. Just Guest Lecture</u> 125 Strom Thurmond Building David A. Relman, M.D. Thomas C. and Joan M. Merigan Professor of Medicine Professor of Microbiology and Immunology Stanford University School of Medicine <i>"Explorations of the Human Microbial Ecosystem"</i>
12:00 – 3:00 pm	Educational Sessions/Lunch Visiting students meet with the MUSC College Admissions Officers
3:00 – 4:00 pm	Table Discussions • How to choose a mentor in science and medicine careers • Personal statement (what not to include) • Public health issues • Professional ethics • Applying to graduate school
4:00 pm	RECEPTION (refreshments will be served)

For more information contact: Mrs. Keisha Vaughn keishav@musc.edu, Dr. Titus A. Reaven reaven@musc.edu
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 for African American History and Culture (College of Charleston) * SC NASA Space Grant * Mu Alpha Chapter of the Omega Psi Phi Fraternity



THE 2019 ERNEST E. JUST SYMPOSIUM FEBRUARY 22, 2019 DRUG DISCOVERY AUDITORIUM



	8:00 – 8:30 am	Registration and Breakfast
	8:30 – 8:40 am	Opening Darlene Shaw, Ph.D. Associate Provost for Education and Student Life Professor of Medicine
		Greeting Raymond Dubois, M.D., Ph.D. Dean, College of Medicine Professor of Biochemistry & Molecular Biology Professor of Medicine
		Paula Traktman, Ph.D. Hirschmann Endowed Professor Dean, College of Graduate Studies Professor of Biochemistry & Molecular Biology Professor of Microbiology & Immunology
	8:45 – 9:05 am	Michael Veet, Ph.D. Professor of Surgery and Bioengineering Vice Chairman for Research, Department of Surgery Medical University of South Carolina <i>"Time Engineering and How it Could be used to Improve Patient Outcomes"</i>
	9:10 – 9:35 am	Titus A. Reever, Ph.D. Director of the Ernest E. Just Symposium Assistant Professor of Regenerative Medicine and Cell Biology Director, Center of Anatomical Studies and Education Medical University of South Carolina <i>"Legacy of Dr. Ernest Everett Just"</i>
	9:40 – 9:55 am	Vireen Chien Ph.D. Candidate Department of Neurosciences Medical University of South Carolina <i>"Cellular Specificity of Matrix Metalloproteinase Activity in Nucleus Accumbens After Chronic Heroin Exposure"</i>
	10:00 – 10:30 am	Presentations of The E.E. Just Undergraduate Awards for Excellence in Research
	10:30 – 10:40 am	Break
	10:40 – 11:25 am	<u>Ernest E. Just Symposium Keynote Speaker</u> Keith Norris, M.D., Ph.D. Professor of Medicine UCLA Division of General Internal Medicine and Health Services Research <i>"Preparing for Success and Unleashing your Personal Greatness"</i>
	11:30 – 12:00 pm	Panel Discussion (Q&A with Speakers)
	12:00 – 1:00 pm	<u>Ernest E. Just Guest Lecture</u> <u>112 Bioengineering Building</u> Joel Rosenbloom, M.D., Ph.D. Professor of Medicine Department of Dermatology and Cutaneous Biology Director, Joan and Joel Rosenbloom Center for Fibrotic Diseases Kimmel Medicine College Thomas Jefferson University <i>"Repurposing Anti-Cancer Drugs as Anti-Fibrotic Agents"</i>
	12:00 – 3:00 pm	Educational Sessions/Lunch Visiting students meet with the MUSC College Admissions Officers
	3:00 – 4:00 pm	Table Discussions • How to choose a mentor in science and medicine careers • Personal statement (what not to include) • Public health issues • Professional ethics
	4:00 pm	RECEPTION (refreshments will be served)

For more information contact: Mrs. Kathleen Vaughan kvaughan@musc.edu, Dr. Titus A. Reever titus@muscar.edu
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Appendix C: 2015-2019 Ernest E. Just Symposium Student Attendees

Schools that Participated in the 2015 Ernest E. Just Symposium	
Name of School	# of Students
Anderson University	17
Benedict College	13
Claflin University	19
Clark Atlanta University	24
Clemson University	17
Fayetteville State University	29
Francis Marion University	6
Morehouse College	11
Spelman College	16
University of Maryland Baltimore County	6
UNC Pembroke	2
USC Aiken	26
Winthrop	8
TOTAL	194

 HBCU outside of SC
 HBCU in SC

Schools that Participated in the 2016 Ernest E. Just Symposium	
Name of School	# of Students
Anderson University	30
Benedict College	19
Claflin University	38
Clark Atlanta University	23
Clemson University	21
Citadel	2
Fayetteville State University	22
Francis Marion University	21
Morehouse College	11
University of Maryland Baltimore County	11
UNC Pembroke	4
UNC Wilmington	19
USC Aiken	20
TOTAL	241

 HBCU outside of SC
 HBCU in SC

Schools that Participated in the 2017 Ernest E. Just Symposium

Name of School	# of Students
Anderson University	18
Benedict College	17
Claflin University	50
Clark Atlanta University	28
Clemson University	16
Coastal Carolina University	7
Fayetteville State University	21
Medical University of South Carolina	1
University of Maryland Baltimore County	9
USC Aiken	20
Winthrop University	7
TOTAL	194

-  HBCU outside of SC
-  HBCU in SC

Schools that Participated in the 2018 Ernest E. Just Symposium

Name of School	# of Students
Anderson University	38
Clark Atlanta University	25
Clemson University	21
College of Charleston	6
Fayetteville State University	31
Francis Marion University	7
University of Maryland Baltimore County	4
TOTAL	132

-  HBCU outside of SC

Schools that Participated in the 2019 Ernest E. Just Symposium	
Name of School	# of Students
Anderson University	19
Atlanta Metropolitan State College	18
Benedict College	11
Clayton University	13
Clark Atlanta University	29
Clemson University	20
College of Charleston	2
Denmark Technical College	10
Fayetteville State University	27
South Carolina State University	20
UNC Wilmington	26
USC Aiken	15
TOTAL	210

- HBCU outside of SC
- HBCU in SC

Appendix D: 2015-2019 SC CHEC BMTRY 777 Curriculum

**2015 BREAST AND PROSTATE CANCER
SUMMER UNDERGRADUATE RESEARCH TRAINING CURRICULUM**
June 1, 2015 - July 31, 2015
11:00 a.m. - 12:00 pm

June Schedule

Week	Topic	Instructor	Location and Date
WEEK 1	Welcome and Overview of the Training Program	Leadership, Mentors and Planning Team	Tuesday, June 2, 2015 BEB 402
WEEK 1 (Clinical Science Research Lecture)	Controversies in Prostate Cancer Screening	Steven Savage, M.D. Professor & Vice Chairman of Urology	Tuesday, June 2, 2015 BEB 402
WEEK 1 (Basic Science Lecture)	Genetic Basis of Cancer	Dennis Watson, Ph.D. Professor Pathology & Laboratory Medicine	Thursday, June 4, 2015 *BS 202
WEEK 2 (Clinical Science Research Lecture)	Controversies in Breast Cancer Screening	Madelene Lewis, M.D. Assistant Professor Radiology	Tuesday, June 9, 2015 BEB 402
WEEK 2 (Academic Planning Lecture)	Funding Opportunities for Underrepresented Minority Scholars	Joann F. Sullivan, Ph.D. Assistant Dean for Extramural Program Development	Thursday June 11, 2015 *BS 202
WEEK 2 (Cultural Enrichment Activity)	Cultural Enrichment Activity	Cultural Enrichment Event	Saturday, June 13, 2015
WEEK 3 (Basic Science Lecture)	Breast Health and Breast Disease, The Basics	Lindsay Peterson, M.D. Assistant Professor Hematology/Oncology	Tuesday, June 16, 2015 *DD 111
WEEK 3 (Cultural Enrichment Activity)	Etiquette Training	Cultural Enrichment Event	Thursday, June 18, 2015 BEB 402
WEEK 4 (Clinical Science Research Lecture)	Anatomy and the Function of the Prostate	Harry S. Clarke, M.D., Ph.D. Professor Urology Services	Monday, June 8, 2015 *BS 202 *12:00 pm
WEEK 4 (Basic Science Lecture)	Receptor Crosstalk Leading To Cancer Cell Invasion	Steven Rosenzweig, Ph.D. Professor Pharmacology	Tuesday, June 23, 2015 BEB 402
WEEK 4 (Biostatistical Methods Lecture)	Biostatistical Issues in Breast and Prostate Cancer Research	Elizabeth Garrett-Mayer, Ph.D. Professor Public Health Sciences	Thursday June 25, 2015 *BE 112
WEEK 5 (HCC Outreach Lecture)	Hollings Cancer Center Outreach Mobile Unit & Community Compass	Melanie Slan Program Coordinator Outreach Services	Tuesday June 30, 2015 BEB 402

**2015 BREAST AND PROSTATE CANCER
SUMMER UNDERGRADUATE RESEARCH TRAINING CURRICULUM (continued)**
June 1, 2015 - July 31, 2015
11:00 a.m. - 12:00 pm

July Schedule

Week	Topic	Instructor	Location and Date
WEEK 6 (Basic Science Lecture)	Tissue Biorepository	Kiwana Gibbs, MA Operations Manager of Tissue Biorepository and Analysis	Monday July 6, 2015 BEB 402
WEEK 6 (Tips for Preparing Graduate School Applications)	Improving Graduate School Admission Rates	Cynthia F. Wright, Ph.D. Associate Dean for Admissions and Career Development	Tuesday July 7, 2015 *DD 111
WEEK 6 (Population Science Research Lecture)	Community-Based Genetic Research Project Among The Sea Islanders (Gullahs) In SC	Ida J. Spruill, Ph.D. Assistant Professor College of Nursing	Thursday, July 9, 2015 BEB 402
WEEK 7 (Population Science Research Lecture)	Introduction to Public Health	John Vena, Ph.D. Professor and Founding Chair Department of Public Health	Tuesday July 14, 2015 *DD 111
WEEK 7 (Population Science/Epidemiologic Research Lecture)	Epidemiologic Issues in Prostate Cancer Research	Anthony Alberg, Ph.D. Professor Cancer Control Program	Thursday July 16, 2015 BEB 402
WEEK 7 (Cultural Enrichment)	Cultural Enrichment Event	Cultural Enrichment Event	Saturday, July 18, 2015
WEEK 8 (Clinical Research Lecture)	Vitamin D and Prostate Cancer	Sebastiano Gattoni-Celli, M.D. Professor Radiation Oncology	Tuesday July 21, 2015 BEB 402
WEEK 8 (Rehearsals)	Research Presentation Rehearsals	Students	Tuesday July 21, 2015 BEB 402 *12:00 pm
WEEK 8 (Population Science Research Lecture, Evaluations)	Survivorship Issues in Breast Cancer	Katherine Sterba, Ph.D. Assistant Professor Cancer Control Program	Thursday July 23, 2015 BEB 402
WEEK 8 (Rehearsals)	Research Presentation Rehearsals	Students	Thursday July 23, 2015 BEB 402 *12:00 pm
WEEK 9 (Rehearsals)	Research Presentation Rehearsals	Students	Monday July 27, 2015 BEB 402 *1:00 pm
WEEK 9	End of Program Celebration	All Research Students and Staff	Tuesday July 2, 2015 HCC 124L *6:00 pm

BMTRY 777 - MUSC Cancer Health Equity Research 2016 Course (Course Will Meet for One Hour Per Lecture)				
Week 1	5/16/16	8:00 am	BE112	Welcome and Kickoff Intensive
MODULE 1: INTRODUCTION TO CANCER DISPARITIES RESEARCH				
Week 1	5/17/16	8:00 am	BE110	Description of the course goals, modules, and expectations of Student Fellows (M. Ford, PhD)
Week 1	5/18/16	8:00 am	BE112	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 1	5/19/16	8:00 am	BS202	Health inequities: institutionalized causes and social determinants of health (T. Felder, PhD)
Week 1	5/20/16	8:00 am	BS202	Understanding the effect of socioeconomic gradients within racial/ethnic groups on cancer outcomes (T. Felder, PhD)
Week 2	5/23/16	8:00 am	BE112	Clinical trials: overview & participation of diverse populations (M. Ford, PhD)
Week 2	5/24/16	8:00 am	BE112	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 2	5/25/16	8:00 am	BE112	Disparities Research Journal Club (led by M. Ford, PhD)
Module 1 Cancer Disparities Research Take-Home Test				
Week 2	5/26/16	8:00 am	BE110	Collaborative IRB Training Initiative (CITI) On-line Module and Test (on own)
Week 2	5/27/16	8:00 am	BE112	Collaborative IRB Training Initiative (CITI) On-line Module and Test (on own)
Memorial Day Holiday – No Class on 5/30/16				
Week 3	5/31/16	8:00 am	BE112	Collaborative IRB Training Initiative (CITI) On-line Module and Test (on own)
MODULE 2: TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH				
Week 3	6/1/16	8:30 am*	BS302	Responsible Conduct of Research (E. Krug, PhD)
Week 3	6/2/16	8:30 am*	BS302	
Week 3	6/3/16	8:30 am*	BS302	
Week 4	6/6/16	8:30 am*	BS302	
MODULE 3: INTRODUCTION TO BREAST CANCER RESEARCH				
Week 4	6/7/16	8:00 am	BE110	Graduate School Funding Opportunities for Underrepresented Students (J. Sullivan, PhD)
Week 4	6/8/16	8:00 am	BE112	Basic Sciences Research Lecture Genetic and molecular characteristics of breast cancer; importance of race/ethnicity/ancestry (D. Watson, PhD and V. Findlay, PhD)
Week 4	6/9/16	8:00 am	BS202	Population Sciences Research Lecture Current and emerging imaging strategies in the detection of breast cancer (M. Lewis, MD)
Week 4	6/10/16	Elective (1 hr)		
Week 5	6/13/16	8:00 am	BE112	Population Sciences Research Lecture Racial/ethnic disparities in breast cancer treatment, outcomes and survivorship (C. Hughes-Halbert, PhD)
Week 5	6/13/16	9:30 am	BE112	Clinical Trials: Overview, Design and Results of a Breast Cancer Trial (N. DeMore, MD)
Week 5	6/14/16	8:00 am	BE110	Population Sciences Research Lecture Survivorship issues in breast cancer (K. Sterba, PhD)
Week 5	6/14/16	9:30 am	BE110	Clinical Sciences Research Lecture Etiology of and current treatment approaches for breast cancer (L. Peterson, MD)
Week 5	6/15/16	8:00 am	BE112	Professional Communication (M. Ford, PhD)
Week 5	6/16/16	8:00 am	BE110	Basic Sciences Research Lecture Genomic approaches utilizing contemporary technologies (Next Generation sequencing, microarray profiling, RNA sequencing, DNA-based approaches) in providing new biological understanding of breast cancer (S. Ethier, PhD)
Week 5	6/17/16	Elective (1 hr)		
Week 6	6/20/16	8:00 am	BE112	Breast Cancer Journal Club (moderated by V. Findlay, PhD)
Module 3 Breast Cancer Research Take-Home Test				
MODULE 4: INTRODUCTION TO PROSTATE CANCER RESEARCH				

Week 6	6/21/16	8:00 am	BE110	Clinical Trials: Overview, Design and Results of a Prostate Cancer Trial (D. Marshall, MD)
Week 6	6/22/16	8:00 am	BE112	Population Sciences Research Lecture Racial and ethnic disparities in prostate cancer research (A. Alberg, PhD)
Week 6	6/23/16	8:00 am	BE110	Clinical Trials: Overview, Design and Results of Phase I Clinical Trials (C. Britten, MD)
Week 6	6/23/16	9:30 am	BS355	Population Sciences Research Lecture Controversies in prostate cancer screening (S. Savage, MD)
Week 6	6/24/16	Elective (1 hr)		
Week 7	6/27/16	8:00 am	BE112	Strategies for Effective Presentations (P. Halushka, PhD)
Week 7	6/28/16	8:00 am	BS202	Basic Sciences Research Lecture Cancer genes and molecular regulation of prostate cancer (D. Watson, PhD and D. Turner, PhD)
Week 7	6/29/16	8:00 am	BE112	Translational Science Research Lecture Immunotherapeutic approaches to prostate cancer (J. Wu, PhD)
Week 7	6/29/16	9:30 am	BE 112	Biostatistical Methods Lecture (E. Garrett-Mayer, PhD)
Week 7	6/30/16	8:00 am	BE112	Prostate Cancer Journal Club (moderated by D. Watson, PhD)
Week 7	7/1/16	Sea Island/Gullah Cultural Awareness Program		
Fourth of July Holiday – No Class on 7/4/16				
Week 8	7/5/16	8:00 am	BE110	Basic Sciences Research Lecture Vitamin D and prostate cancer (S. Gattoni-Celli, MD)
Week 8	7/5/16	9:30 am	BE110	Clinical Sciences Research Lecture Etiology and current treatment approaches for prostate cancer (M. Lilly, MD)
Module 4 Prostate Cancer Research Take-Home Test				
MODULE 5: INTRODUCTION TO HEAD/NECK CANCER RESEARCH				
Week 8	7/6/16	8:00 am	BE112	Clinical Sciences Research Lecture Etiology of and current treatment approaches for head/neck cancers (T. Day, MD)
Week 8	7/6/16	9:30 am	BE112	Basic Sciences Research Lecture HPV background and role in head/neck cancer (L. Pirisi-Creek, MD)
Week 8	7/7/16	8:00 am	BE112	Clinical Sciences Research Lecture Physiologic issues in head/neck cancer survivorship (B. Martin-Harris, PhD)
Week 8	7/7/16	9:30 am	BE112	Populations Sciences Research Lecture Racial/ethnic disparities in head/neck cancer (M. Ford, PhD)
Week 8	7/8/16	Elective (1 hr)		
Week 9	7/11/16	8:00 am	BE112	Populations Sciences Research Lecture Smoking and cancer (K. Cummings, PhD)
Week 9	7/11/16	9:30 am	BE112	Basic Sciences Research Lecture Using genomic approaches to enhance personalization of head/neck cancer care (D. Neskey, MD)
Week 9	7/12/16	8:00 am	BE110	Clinical Trials: Overview, Design, and Results of a Head/Neck Cancer Trial (D. Neskey, MD)
Week 9	7/12/16	9:30 am	BE110	Head/Neck Cancer Journal Club (moderated by S. Rosenzweig, PhD)
Module 5 Head/Neck Cancer Research Take-Home Test				
MODULE 6: INTRODUCTION TO CERVICAL CANCER RESEARCH				
Week 9	7/13/16	8:00 am	BE112	Clinical Sciences Research Lecture Etiology of and treatment approaches for cervical cancer (J. Young Pierce, MD)
Week 9	7/13/16	9:30 am	BE112	Population Sciences Research Lecture Overview of HPV infection and cervical cancer in the US (J. Korte, PhD)
Week 9	7/14/16	8:00 am	BE112	Populations Sciences Research Lecture Cervical cancer vaccination in the US: a case study (K. Cartmell, PhD)
Week 9	7/14/16	9:30 am	BE112	Population Sciences Research Lecture Racial/ethnic disparities in cervical cancer in the US (M. Ford, PhD)
Week 9	7/15/16	Elective (1 hr)		

Week 10	7/18/16	8:00 am	BE112	<i>Clinical Sciences Research Lecture</i> Global perspective of cervical cancer screening and early detection (J. Young Pierce, MD)
Week 10	7/18/16	9:00 am	BE 112	Careers in Academic Medicine (G. Silvestri, MD)
Week 10	7/19/16	8:00 am	BE110	<i>Basic Sciences Research Lecture</i> Cellular and molecular changes associated with HPV infection in cervical cancer (K. Creek, PhD)
Week 10	7/19/16	9:30 am	BE110	Cervical Cancer Journal Club (moderated by K. Creek, PhD)
Week 10	7/20/16	9:30 am	DD 110	Experiences of a Prostate Cancer Survivor (S. Slaughter, PhD)
Module 6 Cervical Cancer Research Take-Home Test				
Week 10	7/22/16	8:00 am	HO120	Students' Presentations, Final Class Discussion, Course Evaluations and Final Papers Are Due

BMTRY 777 - MUSC Cancer Health Equity Research 2017 Course (Course Will Meet for One Hour Per Lecture)				
Week 0	Mon. 5/15/17	12:30PM- 1:30PM	BE412	Mentors' Orientation Meeting Description of the course goals, modules, and expectations of Mentors (M. Ford, PhD)
Week 1	Mon. 5/22/17	12:00PM- 3:00PM	BS502 HCC120	Welcome and Kickoff Intensive 12:00PM-1:00PM: Mentor-Student Meet and Greet Luncheon (M. Ford, PhD) 1:30PM-3:00PM: Description of the course goals, modules, and expectations of Student Fellows (M. Ford, PhD)
MODULE 1: INTRODUCTION TO CANCER DISPARITIES RESEARCH				
Week 1	Tues. 5/23/17	9:00AM- 10:00AM	BS355	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 1	Wed. 5/24/17	9:00AM- 10:00AM	BS355	Clinical trials: overview & participation of diverse populations (M. Ford, PhD)
Week 1	Thurs. 5/25/17	9:00AM- 10:00AM	BS349	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 1	Fri. 5/26/17	9:00AM- 10:00AM	BS355	Disparities Research Journal Club (led by M. Ford, PhD)
Module 1 Cancer Disparities Research Take-Home Test				
MODULE 2: TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH				
Memorial Day Holiday – No Class on 5/29/17				
Week 2	Tues. 5/30/17	11:00AM- 3:00PM	BE402 HCC	11:00AM- 1:30PM Etiquette Training and Lunch (Paula Payton) 2:00-3:00PM SC CHEC Pictures (MUSC Photography)
Week 2	Wed. 5/31/17	9:00AM- 11:00AM	Baruch Auditorium	Responsible Conduct of Research (E. Krug, PhD)
Week 2	Thurs. 6/1/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 2	Fri. 6/2/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 3	Mon. 6/5/17	8:30AM- 10:30AM	Baruch Auditorium	
Week 3	Tues. 6/6/17	10:00AM- 3:15PM	N/A	Sea Island/Gullah Cultural Awareness Activity: Wadmalaw Community Center Trip and Lunch (on site)
Module 2 Responsible Conduct of Research Take-Home Test				
MODULE 3: INTRODUCTION TO BREAST CANCER RESEARCH				
Week 3	Wed. 6/7/17	9:00AM- 10:00AM	BS435	<i>Basic Sciences Research Lecture</i> Genetic and molecular characteristics of breast cancer; importance of race/ethnicity/ancestry (V. Findlay, PhD)
Week 3	Wed. 6/7/17	10:30AM- 11:30AM	BS435	Disparities Research Journal Club (led by M. Ford, PhD)
Week 3	Thurs. 6/8/17	9:00AM- 10:00AM	BS435	Professional Communication (M. Ford, PhD)
Week 3	Fri. 6/9/17	HCC Shared Resources Rotation (1 hr)		
Week 4	Mon. 6/12/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 4	Tues. 6/13/17	9:00AM- 10:00AM	BE201	<i>Clinical Trials</i> : Overview, Design and Results of a Breast Cancer Trial (N. DeMore, MD)

Week 4	Tues. 6/13/17	10:30AM- 11:30AM	BE201	Strategies for Effective Presentations (P. Halushka, MD, PhD)
Week 4	Thurs. 6/15/17	9:00AM- 10:00AM	BS355	Graduate School Funding Opportunities for Underrepresented Students (C. Frichtel, MBA)
Week 4	Thurs. 6/15/17	10:30AM- 11:30AM	BS355	Population Sciences Research Lecture Racial/ethnic disparities in breast cancer treatment, outcomes and survivorship (C. Hughes-Halbert, PhD)
Week 4	Fri. 6/16/17	HCC Shared Resources Rotation (1 hr)		
Week 5	Mon. 6/19/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 5	Tues. 6/20/17	9:00AM- 10:00AM	BE201	Breast Cancer Journal Club (moderated by V. Findlay, PhD)
Week 5	Tues. 6/20/17	10:30AM- 11:30AM	BE201	<i>Clinical Sciences Research Lecture</i> Etiology of and current treatment approaches for breast cancer (M. Ford, PhD)
Module 3 Breast Cancer Research Take-Home Test				
MODULE 4: INTRODUCTION TO PROSTATE CANCER RESEARCH				
Week 5	Wed. 6/21/17	9:00AM- 10:00AM	BS349	<i>Clinical Sciences Research Lecture</i> Etiology and current treatment approaches for prostate cancer (M. Lilly, MD)
Week 5	Wed. 6/21/17	10:30AM- 11:30AM	BS355	<i>Translational Science Research Lecture</i> Immunotherapeutic approaches to prostate cancer (J. Wu, PhD)
Week 5	Thurs. 6/22/17	9:00AM- 10:00AM	GAZES641	<i>Population Sciences Research Lecture</i> Racial and ethnic disparities in prostate cancer research (M. Ford, PhD)
Week 5	Fri. 6/23/17	HCC Shared Resources Rotation (1 hr)		
Week 6	Mon. 6/26/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 6	Tues. 6/27/17	9:00AM- 10:00AM	BE201	<i>Basic Sciences Research Lecture</i> Cancer genes and molecular regulation of prostate cancer (D. Turner, PhD)
Week 6	Wed. 6/28/17	10:30AM- 11:30AM	BS355	Biostatistical Methods Lecture (B. Hill, PhD)
Week 6	Thurs. 6/29/17	9:00AM- 10:00AM	BS355	Prostate Cancer Journal Club (moderated by D. Watson, PhD)
Week 6	Thurs. 6/29/17	10:30AM- 11:30AM	BS349	<i>Clinical Trials: Overview, Design and Results of a Prostate Cancer Trial</i> (M. Ford, PhD)
Week 6	Fri. 6/30/17	9:30AM- 12:30PM	N/A	Sea Island/Gullah Cultural Awareness Activity: Gullah Tour
Module 4 Prostate Cancer Research Take-Home Test				
Week 7	Mon. 7/3/17	9:00AM- 12:00PM	EL109	GRE and Study Day
Fourth of July Holiday – No Class on 7/4/17				
MODULE 5: INTRODUCTION TO HEAD/NECK CANCER RESEARCH				
Week 7	Wed. 7/5/17	9:00AM- 10:00AM	BS355	<i>Populations Sciences Research Lecture</i> <i>Racial/ethnic disparities in head/neck cancer</i> (M. Ford, PhD)
Week 7	Wed. 7/5/17	10:30AM- 11:30AM	BS355	Careers in Academic Medicine (G. Silvestri, MD)

Week 7	Thurs. 7/6/17	9:00AM- 10:00AM	BS355	<i>Basic Sciences Research Lecture</i> Using genomic approaches to enhance personalization of head/neck cancer care (D. Neskey, MD)
Week 7	Thurs. 7/6/17	10:30AM- 11:30AM	BS349	<i>Clinical Trials: Overview, Design, and Results of a Head/Neck Cancer Trial</i> (D. Neskey, MD)
Week 7	Fri. 7/7/17	HCC Shared Resources Rotation (1 hr)		
Week 8	Mon. 7/10/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 8	Mon. 7/10/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group A)
Week 8	Tues. 7/11/17	9:00AM- 10:00AM	BS355	<i>Populations Sciences Research Lecture</i> Survivorship issues in head and neck cancer (K. Sterba, PhD)
Week 8	Tues. 7/11/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group B)
Week 8	Thurs. 7/13/17	9:00AM- 10:00AM	BS355	<i>Basic Sciences Research Lecture</i> HPV background and role in head/neck cancer (L. Pirisi-Creek, MD)
Week 8	Thurs. 7/13/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group C)
Week 8	Fri. 7/14/17	HCC Shared Resources Rotation (1 hr)		
Week 9	Mon. 7/17/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 9	Mon. 7/17/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group D)
Week 9	Tues. 7/18/17	9:00AM- 10:00AM	BS355	Head/Neck Cancer Journal Club (moderated by S. Rosenzweig, PhD)
Module 5 Head/Neck Cancer Research Take-Home Test				
MODULE 6: INTRODUCTION TO CERVICAL CANCER RESEARCH				
Week 9	Wed. 7/19/17	9:00AM- 10:00AM	BS355	<i>Population Sciences Research Lecture</i> Overview of HPV infection and cervical cancer in the US (J. Korte, PhD)
Week 9	Wed. 7/19/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group A)
Week 9	Thurs. 7/20/17	9:00AM- 10:00AM	BS355	<i>Clinical Sciences Research Lecture</i> Etiology of and treatment approaches for cervical cancer (K. Cannady, PhD)
Week 9	Thurs. 7/20/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group B)
Week 9	Fri. 7/21/17	HCC Shared Resources Rotation (1 hr)		
Week 10	Mon. 7/24/17	9:00AM- 12:00PM	BE201	GRE and Study Day
Week 10	Mon. 7/24/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group C)
Week 10	Tues. 7/25/17	9:00AM- 10:00AM	BE201	<i>Clinical Sciences Research Lecture</i> Global perspective of cervical cancer screening and early detection (J. Young Pierce, MD)
Week 10	Tues. 7/25/17	1:00PM- 3:00PM	TBA	SC CHEC Presentation Rehearsals (Group D)
Week 10	Wed. 7/26/17	9:00AM- 10:00AM	BS355	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in cervical cancer in the US (K. Cartmell, PhD)

Week 10	Wed. 7/26/17	10:30AM- 11:30AM	BS355	<i>Basic Sciences Research Lecture</i> Cellular and molecular changes associated with HPV infection in cervical cancer (K. Creek, PhD)
Week 10	Thurs. 7/27/17	9:00AM- 10:00AM	BS355	Cervical Cancer Journal Club (moderated by J. Luque, PhD)
Week 10	Thurs. 7/27/17	10:30AM- 11:30AM	BS355	Experiences of a Prostate Cancer Survivor (S. Slaughter, PhD)
Week 10	Thurs. 7/27/17	12:00PM- 2:00PM	BS502	SC CURE Summer Research Presentation Colloquium: Students' Presentations
Module 6 Cervical Cancer Research Take-Home Test				
Week 10	Fri. 7/28/17	8:30AM- 4:30PM	HA809	SC-CHEC Summer Research Presentation Colloquium: Students' Presentations *Course Evaluations and Final Papers Are Due

BMTRY 777 - MUSC Cancer Health Equity Research 2018 Course (Course Will Meet for One Hour Per Lecture) ***After each lecture, GRE Test Prep Class, or Shared Resource Rotation, students are to report to their assigned research lab/office to continue working on summer research assignment.				
Week 0	Tues. 5/22/18	12:30PM- 1:30PM	HCC120	Mentors’ Orientation Meeting Description of the course goals, modules, and expectations of Mentors (M. Ford, PhD)
Week 1	Tues. 5/29/18	12:00PM- 3:30PM	HCC120	Welcome and Kickoff Intensive 12:00PM-1:30PM: Program Welcome; Mentor-Student Meet and Greet Luncheon (M. Ford, PhD; J.D. Salley, PhD; O. Bagasra, PhD; L. Pirisi-Creek, PhD; K Creek, PhD; P. Traktman, Dean MUSC COGS; G. Leone, Director MUSC Hollings Cancer Center) 1:30PM- 2:15PM: Tour of MUSC; Security and Parking Management Visit (SC CHEC Staff) 2:30PM-3:30PM: Description of the course goals, modules, and expectations of Student Fellows (M. Ford, PhD)
MODULE 1: TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH				
Week 1	Wed. 5/30/18	8:30AM- 10:30AM	BS402	Responsible Conduct of Research (E. Krug, PhD)
Week 1	Thurs. 5/31/18	9:00AM- 11:00AM	BS402	
Week 1	Fri. 6/1/18	9:00AM- 11:00AM	BS402	
Week 2	Mon. 6/4/18	9:00AM- 11:00AM	BS402	
Module 1 Responsible Conduct of Research Take-Home Test				
MODULE 2: INTRODUCTION TO CANCER DISPARITIES RESEARCH				
Week 2	Tues. 6/5/18	9:00AM- 10:00AM	GAZES125	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 2	Tues. 6/5/18	10:15AM - 10:30AM	GAZES125	Introduction to the Geographical Management of Cancer Health Disparities Program (GMaP) Region 1-South (L. Rice, PhD, MPH)
Week 2	Wed. 6/6/18	9:00AM- 10:00AM	BS202	Clinical trials: overview & participation of diverse populations (M. Ford, PhD)
Week 2	Wed. 6/6/18	10:30AM - 11:30AM	BS202	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 2	Thurs. 6/7/18	9:00AM- 10:00AM	BS202	Disparities Research Journal Club (led by M. Ford, PhD)
Week 3	Thurs. 6/7/18	10:30AM - 11:30AM	BS202	<i>Clinical Sciences Research Lecture</i> Etiology of and current treatment approaches for breast cancer (M. Ford, PhD)
Week 2	Fri. 6/8/18	9:00AM- 5:00PM	N/A	Full Day in Research Labs/Offices
Week 2	Sat. 6/9/18	8:30AM- 11:30AM	Further Info To Come	Cultural Awareness Activity: History of Charleston Scavenger Hunt (SC CHEC Staff)
Module 2 Cancer Disparities Research Take-Home Test				
MODULE 3: INTRODUCTION TO BREAST CANCER RESEARCH				
Week 3	Mon. 6/11/18	9:30AM- 3:00PM	BE112 BE402 HCC	9:30AM-10:30AM: SC CURE Student/Mentor Meet and Greet (M. Ford, PhD) 11:00AM-1:30PM: Etiquette Training and Lunch (Paula Payton) 2:00PM-3:00PM: SC CHEC Pictures (MUSC Photography)

Week 3	Tues. 6/12/18	9:00AM- 5:00PM	N/A	Full Day in Research Labs/Offices
Week 3	Wed. 6/13/18	9:00AM- 5:00PM	N/A	Full Day in Research Labs/Offices
Week 3	Thurs. 6/14/18	9:00AM- 10:00AM	BS202	<i>Basic Sciences Research Lecture</i> Genetic and molecular characteristics of breast cancer; importance of race/ethnicity/ancestry (V. Findlay, PhD)
Week 3	Fri. 6/15/18	HCC Shared Resources Rotation (1 hr)		
Week 4	Mon. 6/18/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 4	Tues. 6/19/18	9:00AM- 10:00AM	BS202	<i>Clinical Trials: Overview, Design and Results of a Breast Cancer Trial</i> (N. DeMore, MD)
Week 4	Tues. 6/19/18	10:30AM - 11:30AM	BS202	Strategies for Effective Presentations (P. Halushka, MD, PhD)
Week 4	Wed. 6/20/18	10:30AM -	BS202	Graduate School Funding Opportunities for Underrepresented Students (Carla Frichtel, MBA)
Week 4	Thurs. 6/21/18	9:00AM- 10:00AM	BS202	Breast Cancer Journal Club (moderated by V. Findlay, PhD)
Module 3 Breast Cancer Research Take-Home Test				
Week 4	Fri. 6/22/18	HCC Shared Resources Rotation (1 hr)		
Week 5	Mon. 6/25/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 5	Tues. 6/26/18	9:30AM- 12:30PM	N/A	Sea Island/Gullah Cultural Awareness Activity: Gullah Tour
MODULE 4: INTRODUCTION TO PROSTATE CANCER RESEARCH				
Week 5	Wed. 6/27/18	9:00AM- 10:00AM	BS202	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in breast cancer treatment, outcomes and survivorship (M. Ford, PhD)
Week 5	Thurs. 6/28/18	10:30AM - 11:30AM	BS202	Biostatistical Methods Lecture (J. Tahsoh, PhD-SCSU)
Week 5	Fri. 6/29/18	HCC Shared Resources Rotation (1 hr)		
Week 6	Mon. 7/2/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 6	Tues. 7/3/18	9:00AM- 10:00AM	BS202	<i>Basic Sciences Research Lecture</i> Cancer genes and molecular regulation of prostate cancer (D. Turner, PhD)
Week 6	Tues. 7/3/18	10:30AM -	BS202	<i>Population Sciences Research Lecture</i> Racial and ethnic disparities in prostate cancer research (M. Ford, PhD)
Fourth of July Holiday – No Class on 7/4/18				
Week 6	Thurs. 7/5/18	9:00AM- 10:00AM	BS202	Professional Communication (M. Ford, PhD)
Week 6	Thurs. 7/5/18	10:30AM - 11:30AM	BS202	<i>Clinical Trials: Overview, Design and Results of a Prostate Cancer Trial</i> (M. Ford, PhD)
Week 6	Fri. 7/6/18	9:00AM- 10:00AM	BE201	<i>Clinical Sciences Research Lecture</i> Etiology and current treatment approaches for prostate cancer (M. Lilly, MD)

Week 6	Fri. 7/6/18	10:30AM -	BE201	Prostate Cancer Journal Club (moderated by D. Turner, PhD)
Module 4 Prostate Cancer Research Take-Home Test				
Week 7	Mon. 7/9/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 7	Mon. 7/9/18	5:30PM- 8:00PM	HCC 120	MUSC Hollings Cancer Center Cancer Disparities Advisory Board Meeting (M. Ford, PhD)
MODULE 5: INTRODUCTION TO HEAD/NECK CANCER RESEARCH				
Week 7	Tues. 7/10/18	9:00AM- 10:00AM	GAZES125	<i>Populations Sciences Research Lecture</i> Racial/ethnic disparities in head/neck cancer (M. Ford, PhD)
Week 7	Wed. 7/11/18	10:30AM - 11:30AM	BS349	Careers in Academic Medicine (G. Silvestri, MD)
Week 7	Thurs. 7/12/18	9:00AM- 10:00AM	BE201	<i>Basic Sciences Research Lecture</i> Using genomic approaches to enhance personalization of head/neck cancer care (E. Graboyes, MD)
Week 7	Thurs. 7/12/18	10:30AM - 11:30AM	BE201	<i>Clinical Trials: Overview, Design, and Results of a Head/Neck Cancer Trial</i> (E. Graboyes, MD)
Week 7	Fri. 7/13/18	HCC Shared Resources Rotation (1 hr)		
Week 8	Mon. 7/16/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 8	Mon. 7/16/18	1:00PM- 3:00PM	BE201	SC CHEC Presentation Rehearsals: Group A (M. Ford, PhD; A. Evans-Knowell, PhD)
Week 8	Tues. 7/17/18	9:00AM- 10:00AM	BS202	<i>Populations Sciences Research Lecture</i> Survivorship issues in head and neck cancer (K. Sterba, PhD)
Week 8	Tues. 7/17/18	10:30AM - 11:30AM	BS202	<i>Basic Sciences Research Lecture</i> HPV background and the role in head/neck cancer (L. Pirisi-Creek, MD)
Week 8	Tues. 7/17/18	2:00PM- 4:00PM	BE402	SC CHEC Presentation Rehearsals: Group B (M. Ford, PhD; D. Randle, PhD)
Week 8	Wed. 7/18/18	9:00AM- 10:00AM	BS202	<i>Populations Sciences Research Lecture</i> Smoking and cancer (K. Cummings, PhD)
Week 8	Wed. 7/18/18	10:30AM - 11:30AM	BS202	<i>Clinical Sciences Research Lecture</i> Physiologic Issues in head/neck cancer survivorship (H. Bonilha, PhD, CCC-SLP)
Week 8	Thurs. 7/19/18	2:00PM- 4:00PM	BE402	SC CHEC Presentation Rehearsals: Group C (M. Ford, PhD)
Week 8	Fri. 7/20/18	HCC Shared Resources Rotation (1 hr)		
Week 9	Mon. 7/23/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 9	Mon. 7/23/18	1:00PM- 3:00PM	BE201	SC CHEC Presentation Rehearsals: Group D (A. Green, MA; J. Stukes, PhD – SCSU)
Week 9	Tues. 7/24/18	9:00AM- 10:00AM	BS502	Head/Neck Cancer Journal Club (moderated by S. Rosenzweig, PhD)
Module 5 Head/Neck Cancer Research Take-Home Test				
MODULE 6: INTRODUCTION TO CERVICAL CANCER RESEARCH				
Week 9	Wed. 7/25/18	9:00AM- 5:00PM	N/A	Full Day in Research Labs/Offices

Week 9	Wed. 7/25/18	1:00PM- 3:00PM	BE201	SC CHEC Presentation Rehearsals: Group A (A. Green, MA)
Week 9	Thurs. 7/26/18	9:00AM- 10:00AM	BS302	<i>Clinical Sciences Research Lecture</i> Etiology of and treatment approaches for cervical cancer (A. Green, MA)
Week 9	Thurs. 7/26/18	1:00PM- 3:00PM	BE402	SC CHEC Presentation Rehearsals: Group B (A. Green, MA; W. Whitaker, PhD – SCSU)
Week 9	Fri. 7/27/18	HCC Shared Resources Rotation (1 hr)		
Week 10	Fri. 7/27/18	9:30AM- 12:30PM	HA809	SC CURE Program Culmination Ceremony: Students' Presentations, Awards, and Pinning Ceremony SC CHEC Student's Final Presentation Abstracts Due by 5pm
Week 10	Mon. 7/30/18	9:00AM- 12:00PM	BE201	GRE Test Prep
Week 10	Mon. 7/30/18	1:00PM- 3:00PM	BE201	SC CHEC Presentation Rehearsals: Group C (A. Green, MA; A. McCrary-Quarles – SCSU)
Week 10	Tues. 7/31/18	9:00AM- 10:00AM	BS202	<i>Population Sciences Research Lecture</i> Overview and epidemiology of HPV infection and HPV vaccines (J. Korte, PhD)
Week 10	Tues. 7/31/18	1:00PM- 3:00PM	BE402	SC CHEC Presentation Rehearsals: Group D (M. Ford, PhD)
Week 10	Wed. 8/1/18	9:00AM- 10:00AM	BS202	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in cervical cancer in the US (K. Cartmell, PhD)
Week 10	Wed. 8/1/18	10:30AM - 11:30AM	BS202	<i>Basic Sciences Research Lecture</i> Cellular and molecular changes associated with HPV infection in cervical cancer (K. Creek, PhD)
Week 10	Thurs. 8/2/18	9:00AM- 10:00AM	BS202	Cervical Cancer Journal Club (moderated by K. Cartmell, PhD)
Module 6 Cervical Cancer Research Take-Home Test				
Week 10	Fri. 8/3/18	10:00AM -5:00PM	BE112	SC-CHEC Summer Research Presentation Colloquium: Students' Presentations *Course Evaluations and Final Papers Are Due

BMTRY 777 - MUSC Cancer Health Equity Research Course (Course Will Meet for One Hour Per Lecture) STARTS AT 8:00AM ; GRE Work Days 8:00AM-12:00PM; 4:00PM-5:00PM After each lecture, GRE Prep, or Shared Resource Rotation, students are to report to their assigned research lab/office to continue working on summer research assignment.				
Week 0	Tues. 5/21/19	12:30PM- 1:30PM	HCC120	Mentors’ Orientation Meeting Description of the course goals, modules, and expectations of Mentors (M. Ford, PhD)
Week 1	Tues. 5/28/19	11:00AM- 3:00PM	Gazes 125	Welcome and Kickoff Intensive 11:00AM-12:30PM: Program Welcome; Mentor-Student Meet and Greet Luncheon (M. Ford, PhD; J.D. Salley, PhD; O. Bagasra, PhD; L. Pirisi-Creek, PhD; K Creek, PhD; P. Traktman, Dean MUSC COGS; G. Leone, Director MUSC Hollings Cancer Center) 1:00PM-2:00PM: Description of the course goals, modules, and expectations of Student Fellows (M. Ford, PhD) 2:00PM- 3:00PM: Tour of MUSC; Security and Parking Management Visit (SC CHEC Staff)
MODULE 1: TRAINING IN THE RESPONSIBLE CONDUCT OF RESEARCH				
Week 1	Wed. 5/29/19	8:30AM- 10:50AM	BSB302	Responsible Conduct of Research (A. Bradshaw, PhD)
Week 1	Thurs. 5/30/19	8:30AM- 10:50AM	BSB302	
Week 1	Fri. 5/31/19	8:30AM- 10:50AM	BSB302	
Week 2	Mon. 6/3/19	8:30AM- 10:50AM	BSB302	
Module 1 Responsible Conduct of Research Take-Home Test				
MODULE 2: INTRODUCTION TO CANCER DISPARITIES RESEARCH				
Week 2	Tues. 6/4/19	8:00AM- 9:00AM	BSB435	Professional Communication (M. Ford, PhD)
Week 2	Tues. 6/4/19	9:00AM- 10:00AM	BSB435	Unnatural Causes: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 2	Wed. 6/5/19	8:00AM- 9:00AM	BSB435	Clinical trials: overview & participation of diverse populations (M. Ford, PhD)
Week 2	Thurs. 6/6/19	8:00AM- 9:00AM	BSB435	Unnatural Causes or Escape Fire: Health and health equity: framework, data sources, national and state priorities (M. Ford, PhD)
Week 2	Fri. 6/7/19	8:00AM- 9:00AM	BSB435	Disparities Research Journal Club (led by M. Ford, PhD)
Module 2 Cancer Disparities Research Take-Home Test				
MODULE 3: INTRODUCTION TO BREAST CANCER RESEARCH				
Week 3	Mon. 6/10/19	8:30AM- 1:30PM	HCC GAZES125	8:30AM-:9:00AM: SC CHEC Pictures (MUSC HCC Photography) 11:00AM-1:30PM: Etiquette Training and Lunch (Paula Payton)
Week 3	Tues. 6/11/19	8:00AM- 9:00AM	BSB435	<i>Clinical Sciences Research Lecture</i> Etiology of and current treatment approaches for breast cancer (Andrea Abbott, MD)
Week 3	Wed. 6/12/19	8:00AM- 9:00PM	BSB435	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in breast cancer treatment, outcomes and survivorship (M. Ford, PhD)
Week 3	Thurs. 6/13/19	Full Day of Research Offices/Labs		
Week 3	Fri. 6/14/19	HCC Shared Resources Rotation (1 hr)		

Week 3	Saturday 6/15/19	10:30AM- 1:00PM	N/A	Sea Island/Gullah Cultural Awareness Activity: Gullah Tour
Week 4	Mon. 6/17/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 4	Tues. 6/18/19	8:00AM- 9:00AM	BSB435	<i>Clinical Trials:</i> Overview, Design and Results of a Breast Cancer Trial (D. Garcia, MD)
Week 4	Tues. 6/18/19	9:00AM- 10:00AM	BSB435	<i>Basic Sciences Research Lecture</i> Genetic and molecular characteristics of breast cancer; importance of race/ethnicity/ancestry (V. Findlay, PhD)
Week 4	Wed. 6/19/19	8:00AM- 9:00AM	BSB435	Graduate School Funding Opportunities for Underrepresented Students (Kim Cannady, PhD)
Week 4	Thurs. 6/20/10	8:00AM- 9:00AM	BSB435	Breast Cancer Journal Club (moderated by V. Findlay, PhD)
Module 3 Breast Cancer Research Take-Home Test				
Week 4	Fri. 6/21/19	HCC Shared Resources Rotation (1 hr)		
MODULE 4: INTRODUCTION TO PROSTATE CANCER RESEARCH				
Week 5	Mon. 6/24/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 5	Tues. 6/25/19	8:00AM- 9:00AM	BSB435	<i>Basic Sciences Research Lecture</i> Cancer genes and molecular regulation of prostate cancer (D. Turner, PhD)
Week 5	Wed. 6/26/19	8:00AM- 9:00AM	BSB435	<i>Population Sciences Research Lecture</i> Racial and ethnic disparities in prostate cancer research (M. Ford, PhD)
Week 5	Thurs. 6/27/19	8:00AM- 9:00AM	BSB435	Biostatistical Methods Lecture (J. Tahsoh, PhD-SCSU)
Week 5	Fri. 6/28/19	HCC Shared Resources Rotation (1 hr)		
Week 6	Mon. 7/1/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 6	Tues. 7/2/19	8:00AM- 9:00AM	BSB435	<i>Clinical Sciences Research Lecture</i> Etiology and current treatment approaches for prostate cancer (M. Lilly, MD)
Week 6	Wed. 7/3/19	8:00AM- 9:00AM	BSB435	<i>Clinical Trials:</i> Overview, Design and Results of a Prostate Cancer Trial (M. Ford, PhD)
Fourth of July Holiday – No Class on 7/4/19				
Week 6	Fri. 7/5/19	8:00AM- 9:00AM	BSB435	Prostate Cancer Journal Club (moderated by D. Turner, PhD)
Week 6	Fri. 7/5/19	HCC Shared Resources Rotation (1 hr)		
Module 4 Prostate Cancer Research Take-Home Test				
MODULE 5: INTRODUCTION TO HEAD/NECK CANCER RESEARCH				
Week 7	Mon. 7/8/19	1:00PM- 4:00PM	EL121	GRE Test Prep
Week 7	Tues. 7/9/19	8:00AM- 9:00AM	BSB435	<i>Populations Sciences Research Lecture</i> Racial/ethnic disparities in head/neck cancer (M. Ford, PhD)
Week 7	Wed. 7/10/19	8:00AM- 9:00AM	BSB435	Careers in Academic Medicine (G. Silvestri, MD)

Week 7	Thurs. 7/11/19	8:00AM- 9:00AM	BSB435	<i>Basic Sciences Research Lecture</i> Using genomic approaches to enhance personalization of head/neck cancer care (E. Graboyes, MD)
Week 7	Thurs. 7/11/19	9:30AM- 10:30AM	BSB435	<i>Clinical Trials: Overview, Design, and Results of a Head/Neck Cancer Trial</i> (E. Graboyes, MD)
Week 7	Fri. 7/12/19	HCC Shared Resources Rotation (1 hr)		
Week 8	Mon. 7/15/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 8	Tues. 7/16/19	8:00AM- 9:00AM	BSB435	<i>Basic Sciences Research Lecture</i> HPV background and the role in head/neck cancer (C. Bannister, PhD)
Week 8	Tues. 7/16/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group A (M. Ford, PhD)
Week 8	Wed. 7/17/19	8:00AM- 9:00AM	BSB435	<i>Populations Sciences Research Lecture</i> Smoking and cancer (K. Cummings, PhD)
Week 8	Wed. 7/17/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group B (M. Ford, PhD; D. Randle, PhD – SCSU)
Week 8	Thurs. 7/18/19	8:00AM- 9:00AM	BSB435	<i>Clinical Sciences Research Lecture</i> Physiologic Issues in head/neck cancer survivorship (H. Bonilha, PhD, CCC-SLP)
Week 8	Thurs. 7/18/19	3:00PM- 5:00PM	BEB402	SC CHEC Presentation Rehearsals: Group C (M. Ford, PhD)
Week 8	Fri. 7/19/19	HCC Shared Resources Rotation (1 hr)		
Week 9	Mon. 7/22/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 9	Tues. 7/23/19	8:00AM- 9:00AM	BSB435	Head/Neck Cancer Journal Club (moderated by S. Rosenzweig, PhD)
Week 9	Tues. 7/23/19	12:00PM- 2:00PM	BEB402	SC CHEC Presentation Rehearsals: Group D (M. Ford, PhD; J. Stukes, PhD – SCSU)
Module 5 Head/Neck Cancer Research Take-Home Test				
MODULE 6: INTRODUCTION TO CERVICAL CANCER RESEARCH				
Week 9	Wed. 7/24/19	8:00AM- 9:00AM	BSB435	<i>Clinical Sciences Research Lecture</i> Etiology of and treatment approaches for cervical cancer (C. Chavis, MPA)
Week 9	Wed. 7/24/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group A (D. Turner, PhD)
Week 9	Thurs. 7/25/19	Full Day of Research Offices/Labs		
Week 9	Thurs. 7/25/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group B (V. Findlay, PhD; W. Whitaker, PhD – SCSU)
Week 9	Fri. 7/26/19	Full Day of Research Offices/Labs; Abstract and Presentation Title Due by Noon Today		
Week 10	Mon. 7/29/19	1:00PM- 4:00PM	EL118	GRE Test Prep
Week 10	Tues. 7/30/19	8:00AM- 9:00AM	BSB435	<i>Population Sciences Research Lecture</i> Racial/ethnic disparities in cervical cancer in the US (A. White, MPH)
Week 10	Tues. 7/30/19	9:00AM- 10:00AM	BSB435	Population Sciences Research Lecture Overview and epidemiology of HPV infection and HPV vaccines (J. Korte, PhD)
Week 10	Tues. 7/30/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group D (M. Ford, PhD)

Week 10	Wed. 7/31/19	8:00AM- 9:00AM	BSB435	<i>Basic Sciences Research Lecture</i> Cellular and molecular changes associated with HPV infection in cervical cancer (C. Bannister, PhD)
Week 10	Wed. 7/31/19	9:00AM- 10:00AM	BSB435	Cervical Cancer Journal Club (moderated by A. White, MPH)
Week 10	Wed. 7/31/19	1:00PM- 3:00PM	BEB402	SC CHEC Presentation Rehearsals: Group C (G. Magwood, PhD; A. McCrary-Quarles – SCSU)
Week 10	Thurs. 8/1/19	9:00AM- 4:30PM	BS302	SC-CHEC Summer Research Presentation Colloquium: Students' Presentations
Module 6 Cervical Cancer Research Take-Home Test				
Week 10	Fri. 8/2/19	8:00AM- 10:00AM	BSB435	Program Wrap-Up: Course Evaluations, Program Reflection, and Final Papers Are Due by 5PM.

Appendix E: 2016-2019 SC CHEC Journal Club Assignments

Journal Club rotations began in the summer of 2016; therefore, there are no journal club assignments to note for 2015.

2016 SC CHEC Journal Club Groups

Breast Cancer Journal Club

June 20, 2016

Mina Gunter
Jerrica Walden
Brianna Jacobs
London Knight
Thomas Wallace

Prostate Cancer Journal Club

June 30, 2016

Christina Alford
Daniel Patterson
Jamicca Green
Kenyatta Walker

Head/Neck Cancer Journal Club

July 12, 2016

Nakea Pennant
Tanner Coleman
Taaliah Campbell
Jordan Barnes

Cervical Cancer Journal Club

July 19, 2016

Malik Leach
Taylor Trachtenberg
Kai Cobb
NiAsia Hazelton
Rosa Alcantar

2017 SC CHEC Journal Club Groups

Breast Cancer Journal Club

June 20, 2017

Rosaline Achiangia
Sean Bloos
Tiare Brown
Danielle Garrett
Taaliah Campbell

Prostate Cancer Journal Club

June 29, 2017

Kenyatta Walker
Chloe Kieve
Allison Swiecki
Taylor Jones
Sebrena Brink

Head/Neck Cancer Journal Club

July 18, 2017

Starr Frazier
Jerrica Walden
Elizabeth Davis
Nic Elrod
Jennifer William

Cervical Cancer Journal Club

July 27, 2017

Kennede Duncan
Melody Volbrecht
Heidi Carpenter
Daijah Thibodeaux
Nakea Pennant

2018 SC CHEC Journal Club Groups

Breast Cancer Journal Club

Moderator: Dr. Findlay (findlay@musc.edu)

June 21, 2018

Erica Bennett
Kimberly King
Sara Wallam
Jamarni Robinson

Prostate Cancer Journal Club

Moderator: Dr. Turner (turnerda@musc.edu)

July 6, 2018

Jocelyn Bennett
Pascha Dawson
Tamara Washington
Ariel Moore

Head/Neck Cancer Journal Club

Moderator: Dr. Rosenzweig (rosenzsa@musc.edu)

July 24, 2018

Ernest Jenkins
Julia Hepburn
Mikayla Johnson
Ta'Myiah Reed
Danielle Beaufort

Cervical Cancer Journal Club

Moderator: Dr. Cartmell (cartmelk@musc.edu)

August 2, 2018

Brandon Sutton
Arabia Satterwhite
Daniel Farquharson
Felicity Johnson

2019 SC CHEC Journal Club Groups

Breast Cancer Journal Club

Moderator: Dr. Findlay (findlay@musc.edu)

June 20, 2019

Ashley Hill
Christina Adams
Khalin Taylor
Mikayla Johnson
Antiqua Gathers

Prostate Cancer Journal Club

Moderator: Dr. Turner (turnerda@musc.edu)

July 5, 2019

Makayla Cummings
Ta'Myiah Reed
Abigail Jackson
Yatia Lancaster

Head/Neck Cancer Journal Club

Moderator: Dr. Rosenzweig (rosenzsa@musc.edu)

July 23, 2019

Reagan Hill
Briah Gordon
Angel Gilmore
Greta Tautkus

Cervical Cancer Journal Club

Moderator: Ms. White (whitashl@musc.edu)

July 31, 2019

Arabia Satterwhite
Mirakle Avery
Danielle Beaufort
Bria Sanders
India Eady

Appendix F: 2015-2019 Students Supported by Leveraged Funding From Other Federal Grants Awarded to Dr. Ford

Summer 2015 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Research Topic				
Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Research Topic
Ms. Cheyauna Mitchell	Voorhees College	Victoria Findlay, PhD	P20CA157071 (PI: Ford)	MicroRNA-mediated Negative Regulation of Caveolin-1 as a Mechanism Driving Breast Cancer Disparity

Summer 2016 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Title of Research Project				
Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Title of Research Project
Rosa Alcantar	Claflin University	Juan Luque, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	HPV and Cervical Cancer: Standardized Questionnaire on Opinions and Experiences of the Latina Women
Kai Cobb	Claflin University	Gayenell Magwood, PhD, RN	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Relationship between Cardiometabolic Risk Factors and African-American Breast Cancer Survivors
Jamicca Green	Claflin University	Chanita Hughes-Halbert, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Examining Health Behaviors and Weight Management Issues in Primary Care
Christina Alford	University of South Carolina	Sundar Balasubramanian, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Yogic Breathing as an Adjunct Mind-Body Intervention to Reduce Side Effects of Cancer Treatment
Tanner Coleman	University of South Carolina	Kevin Gray, MD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Racial and socioeconomic differences in cortisol reactivity to Trier Social Stress Test in adult smokers: An interim analysis
Mina Gunter	University of South Carolina	Phillip Howe, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Role of ER-Golgi Trafficking Genes in Breast Cancer Metastatic Progression
NiAsia Hazelton	University of South Carolina	Marvella E. Ford, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC
Brianna Jacobs	University of South Carolina	Danyelle Townsend, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	The effect of redox enzymes and polymorphisms on triple negative breast cancer in African-American women
Daniel Patterson	University of South Carolina	Steven Rosenzweig, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	NEDD9 Mutations Affect Levels of Protein Expression in Head and Neck Squamous Cell Carcinoma
Taylor Trachtenberg	University of South Carolina	Howard Becker, PhD	NIH/NCI R25E (R25 CA193088;	The Effect of Repeated Stress on Brain Stress Systems: Implications for Cancer Development

			PI: Ford)	
Jerrica Walden	University of South Carolina	Victoria Findlay, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	miR-204 Expression Disrupts Normal Lactation in Mammary Gland Development
Thomas Wallace	University of South Carolina	Bart Smits, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Mutations of TOX3 affect Breast Cancer Susceptibility in Non-Hispanic White and African-American Women
Malik Leach	Voorhees College	Kathleen Cartmell, PhD, MPH	NIH/NCI R25E (R25 CA193088; PI: Ford)	Somatic Genetic Mutations in African American and Caucasian American Patients with Colorectal Cancer
Nakea Pennant	South Carolina State University	Kristin Wallace, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	A Systematic Review of Patient Navigation Interventions To Improve Patient Education and Enrollment in Cancer Clinical Trials

Summer 2017 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Title of Research Project				
Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Title of Research Project
Sean Bloos	Voorhees College	Phillip Howe, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Mechanism of TGFβ-induced Cancer Stem Cell Formation through ILEI and LIFR
Sebrena Brink	University of South Carolina	Michael Cummings, PhD, MPH	NIH/NCI R25E (R25 CA193088; PI: Ford)	Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States
Tiare Brown	Claflin University	Gayenell Magwood, PhD, RN, FAAN	NIH/NCI R25E (R25 CA193088; PI: Ford)	Assessing the Relationship between the Life's Simple 7 Metric with Diabetes and Breast Cancer Risk in African American Women
Heidi Carpenter	University of South Carolina	Kristin Wallace, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Tumor Infiltrating Lymphocytes and Colorectal Cancer Survival in African American and Caucasian Patients
Elizabeth Davis	University of South Carolina	Marvella E. Ford, PhD	NIH/NCI R25E (R25	Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer

			CA193088; PI: Ford)	
Kennede Duncan	University of South Carolina	Erin McClure, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Tobacco and Marijuana Co-occurrence in Adults: Identifying Co-use Mechanisms to Understand Prevalence and Patterns
Nicolas Elrod	University of South Carolina	Hiu Cheung, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Development of a Mouse Model for Gynecologic Cancers
Starr Frazier	Claflin University	Marvella E. Ford, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC
Danielle Garrett	University of South Carolina	Juan Luque, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Targeted Mammography Screening Interventions for Hispanic Women: A Systematic Review
Taylor Jones	South Carolina State University	Danyelle Townsend, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Evaluation of NF-kB Transcription Factor in Lung Cancer Patient Samples
Chloe Keeve	University of South Carolina	Bryan Heckman, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Racial Disparities in Smoking Cessation Treatment Utilization
Allison Swiecki	University of South Carolina	Bart Smits, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Investigating the Connection Between Breast Cancer and Obesity Through TOX3 Regulation
Daijah Thibodeaux	South Carolina State University	Matt Carpenter, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Is Smoking History Affected by Cessation Fatigue and the Moderation of Race and Gender?
Melody Volbrecht	University of South Carolina	Nancy Demore, MD, FACS	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Effect of hSFRP2 Monoclonal Antibody on Angiogenesis and Tumor Growth
Jerrica Walden	University of South Carolina	Victoria Findlay, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	miR-204 Expression Disrupts Normal Lactation during Mammary Gland Development
Jennifer William	Voorhees College	LaShanta Rice, PhD, MPH	NIH/NCI R25E (R25 CA193088;	Relationship between Weight Loss Advice and Weight Loss Attempts amongst Overweight and Obese Patients

			PI: Ford)	
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Summer 2018 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Title of Research Project				
Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Title of Research Project
Danielle Beaufort	South Carolina State University	Shikhar Mehrotra, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Understanding T cell Metabolism In Immunotherapy
Erica Bennett	Claflin University	Ann-Marie Broome, PhD, MBA	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Effect of Different Concentrations of Resveratrol on the Cell Death of Glioblastoma Cells
Jocelyn Bennett	South Carolina State University	Bryan Heckman, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Relationships between Cancer Diagnosis, Health Disparities, and Perceptions of Nicotine/Tobacco Products
Pascha Dawson	South Carolina State University	Benjamin Toll, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Smoking cessation and high risk smokers who decline to participate in research studies
Julia Hepburn	University of South Carolina	Brandon Welch, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Assessing the Possible Uses of the Program Dokbot to Correct Existing Issues in the United States' Healthcare System
Ernest Jenkins	Claflin University	Phillip Howe, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Effects of ILEI Expression on Breast Cancer
Mikayla Johnson	South Carolina State University	Alexander Alekseyenko, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	How the Bacteria Enterococci Have a Bad Effect on the Environment
Kimberly King	Claflin University	Bart Smits, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Higher-Order Chromatin Organization of the Rat Tox3 Breast Cancer Susceptibility Locus
Ariel Moore	Claflin University	Ann-Marie Broome, PhD, MBA	NIH/NCI R25E (R25 CA193088; PI: Ford)	
Ta'Myiah Reed	South Carolina State	Marvella Ford, PhD	NIH/NCI R25E (R25 CA193088;	Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early Stage Non-Small Cell Lung

	University		PI: Ford)	Cancer
Jamarni Robinson	Claflin University	Elizabeth Yeh, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Optimization of Non-radioactive In-Vitro Kinase Assays for the Protein Kinase Hunk
Arabia Satterwhite	South Carolina State University	Victoria Findlay, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Role of Mir-510 in breast cancer disparities
Sara Wallam	University of South Carolina	Jennifer Dahne, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Racial Disparities In Receipt Of Brief Physician Advice For Smoking Cessation In South Carolina Primary Care Clinics
Tamara Washington	University of South Carolina	Willian Da Silveira, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Prostate Transcriptome in African American Men compared with European-American Men Secondary Analysis

Summer 2019 South Carolina Cancer Health Equity Consortium: HBCU Student Summer Training Program Additional Student, Mentor, Funding Source, and Title of Research Project				
Student Name	Academic Institution	MUSC Research Mentor	Funding Source	Title of Research Project
Christina Adams	University of South Carolina	Brandon Welch, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Telecommunication Needs for Rural Communities
Mirakle Avery	Claflin University	Michael Ostrowski, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	mtp53/ Ets-2 in immune-suppressive microenvironment
Danielle Beaufort	South Carolina State University	Shikhar Mehrotra, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Understanding the Role of JNK in Immuno-Metabolic Phenotype of T cells
Makayla Cummings	University of South Carolina	Mahsa Javid MD, MA, PhD, FRCS	NIH/NCI R25E (R25 CA193088; PI: Ford)	Hashimoto's Thyroiditis and Papillary Thyroid Carcinoma
Antiqua Gathers	South Carolina State University	Marvella Ford, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge among Predominantly African American Communities in South Carolina
Angel Gilmore	Claflin University	Ann-Marie Broome, PhD, MBA	NIH/NCI R25E (R25	Rapalogs Enhanced with Micelle Encapsulation and Targeting Capabilities to have Increased Efficacy and Specificity in Cancer Cells Without

			CA193088; PI: Ford)	Eliminating a High Percentage of Normal Cells
Briah Gordon	Claflin University	Paula Traktman, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Identifying VRK1 interacting proteins using APEX technology
Ashley Hill	South Carolina State University	Jorge Munera, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Development of Tools Used to Examine BMP Signaling
Abigail Jackson	University of South Carolina	Michael Cummings, PhD, MPH	NIH/NCI R25E (R25 CA193088; PI: Ford)	Smokeless Tobacco Use and Cardiovascular Disease Prevalence: Findings from Population Assessment of Tobacco and Health (PATH) Study
Mikayla Johnson	South Carolina State University	Alexander Alekseyenko, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Analysis of Microbiome Data in Healthy Colon
Yatia Lancaster	Claflin University	Patrick Woster, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Polyamine Metabolism: Expression of SLC3A2
Ta'Myiah Reed	South Carolina State University	Gustavo Leone, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Generation of a Genetically Engineered Mouse Pancreatic Cancer Model through Genotyping
Bria Sanders	Claflin University	David Turner, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Investigating the Role of RAGE in AGE-Mediated Neoplastic Growth
Arabia Satterwhite	South Carolina State University	Victoria Findlay, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	The Role of Mir-510 in Breast Cancer Disparities
Greta Tautkus	University of South Carolina	John Pearce, PhD	NIH/NCI R25E (R25 CA193088; PI: Ford)	Establishing baseline asthma risk in the Charleston area
Khalin Taylor	Claflin University	Ann-Marie Broome, PhD, MBA	NIH/NCI R25E (R25 CA193088; PI: Ford)	Nanoparticle Packaging of a BET Inhibitor for Improved Efficacy in Glioblastoma Cells

Appendix G: Abstracts of DoD Funded Students' Summer Cancer Research Projects, 2015-2019

2015 Student Fellow Abstracts

Kadeidre Gaymon
South Carolina State University
Mentor: Marvella E. Ford, PhD

ABSTRACT

Evaluating Rates of Overweight/Obesity and Physical Activity in a Diverse Sample of South Carolina Cancer Survivors

TARGET POPULATION: European American (EA) and African American (AA) women in South Carolina (SC)

BACKGROUND: High body mass index (BMI) is linked to poorer survival after cancer diagnosis. Physical activity (PA) could moderate this association.

OBJECTIVES/HYPOTHESIS: Prevalence of high BMI (overweight/obesity) and level of PA were evaluated in a statewide sample of women within 18 months of cancer diagnosis.

METHODS: A total of 388 women were identified and processed as potential participants SC Central Cancer Registry staff (Phase 1), of whom 178 (46%) opted into the study and were referred to MUSC study staff for Phase 2. Among these, 151 (84%) met all eligibility criteria and were interviewed: 101 African American and 50 European American women; among African Americans, 29 were Sea Islanders. Recruitment rates at the two Phases did not differ significantly by ethnicity (42% of African Americans and 54% of European Americans at Phase 1: $p=0.11$, and 87% and 81% respectively at Phase 2: $p=0.28$). Main reasons for non-participation at Phase 1 were passive refusal (not responding to repeated phone calls; $n=87$: 22%), actively opting out ($n=70$: 18%) and inability to contact the participant (incorrect or missing phone number; $n=42$: 11%). In Phase 2, a total of 26 passively or actively refused or did not complete the interview (15%). One woman was excluded as not meeting the ethnicity inclusion criterion.

RESULTS: *Age:* Age at diagnosis ranged from 38 to 90 years, with a mean age of 59.9 years (SD 12.1 years 1). The mean age of the African American participants was 3.9 years lower than the mean age of the European American participants. However, this difference was only marginally statistically significant ($p=0.10$).

Education: the majority of study participants (55%) reported having more than a high school diploma. No statistically significant racial differences were seen; 52% of African Americans and 64% of European Americans reported having more than a high school diploma ($p=0.17$).

BMI: The mean BMI level of the sample was 31.2 (SD 6.8, median 30.6, range 16.6-51.6). Average BMI levels were higher in African Americans than in European Americans (31.9 vs. 29.4, respectively ($p=0.024$)). The majority of study participants (82%) were overweight/obese and this finding did not differ statistically by race ($p=0.63$). Among African Americans, 83% of the participants were overweight/obese (28% were overweight, 55% were obese, and 32% of these were extremely obese). Among European Americans, 79% of the participants were overweight/obese (36% were overweight, 43% were obese, and 19% of these were extremely obese).

PA and Age: In the entire sample, older women were more likely than younger women to report adhering to physical activity guidelines (OR 1.05/year, $p=0.003$). This difference was statistically significant for European Americans ($p=0.012$) but not for African Americans ($p=0.09$). *PA and Race:* European Americans reported higher levels of physical activity, with a median of 90 minutes per week, than African Americans, with a median of 45 minutes per week, although these median differences were not statistically significant ($p=0.07$). Physical activity was not significantly associated with reduced risk of overweight/obesity in either racial group, based on the CDC physical activity guidelines, even among physically active women ($p>0.18$ in an age-adjusted model). In addition, in age-adjusted models, no associations were seen between level of physical activity and education, disease stage or ER status in either racial group ($p>0.22$).

Casseanna Holmes
Voorhees College
Mentor: Danyelle Townsend, PhD

ABSTRACT

Impact of antioxidant enzymes on breast cancer patients: An evaluation of triple negative and receptor expression

There are two types of Hormone Receptor-Positive Breast Cancers. Estrogen Receptor Positive (ER positive) grows in the response to the hormone estrogen (1). Progesterone Receptor Positive (PR positive) breast cancer grows in the response of the hormone progesterone. Triple negative breast cancer test negative for three receptors: estrogen, progesterone, and HER2 (1). The objective was to see if Antioxidant enzymes are deregulated in triple negative breast cancer patients. Two different cell lines were used: MCF7 and MCF 10A. MCF7 cells are estrogen receptor positive and MCF 10A cells are normal epithelia cells. The following proteins were analyzed: glutathione S-transferase (GST-Pi), glutaredoxin-1 (GRX1), glutathione S-transferase Mu1 (GSTMu1), and peroxiredoxin (PRDX1). GST-Pi is down regulated in MCF7 while present in MCF 10A.

Malik Leach
Voorhees College
Mentor: David Turner, PhD

ABSTRACT

The Contribution to AGE-RAGE Signaling Pathways to Tamoxifen Resistance

Nolvadex or Soltamox also known as Tamoxifen is the most common prescribed drug treatment for the estrogen receptor positive (ER+) breast cancer which account for 70% of all the breast cancer cases. Tamoxifen blocks the ER receptor signaling pathways, thus creating a greater chance of survival. Many patients respond positively to Tamoxifen treatment but 50 % of the patients have de-novo resistance and 30% of original responders acquire resistance. The goal of this proposal is to examine if reactive metabolites associated with poor lifestyle can contribute to resistance to Tamoxifen therapy in immortalized ER+ breast cancer cell lines. My objective of this study is to find out if AGE is dependent on its cognate receptor "RAGE" to promote Tamoxifen resistance

Ludy Martinez
Clafin University
Mentor: Shikhar Mehrotra, PhD

ABSTRACT

The Immunosuppressive Ability of Myeloid Derived Suppressor Cells

The development of treatments to combat cancer has been researched extensively. Immunology is a relatively new field of research that has shown a promising future in cancer treatment. Immunology implicates immunotherapy which uses a patient's own immune cells to fight diseases, remarkably in cancer. Myeloid Derived Suppressor Cells (MDSCs), most notably in cancer, are generated during pathological diseases and suppress the function of immune cells. With MDSCs suppressing the function of immune cells it is difficult for immunotherapy to work effectively because the functions of immune cells are being compromised. Myeloid Derived Suppressor Cells use a series of pathways and mechanisms to induce immune cell apoptosis and inhibit their antigen specific response. The mechanisms that MDSCs use to suppress the function of immune cells are being targeted in efforts to make immune cells responsive to immunotherapy. To target the pathways MDSCs it must first be shown that MDSCs suppress the function of the immune cells, T cells, but also suppress their proliferation. In order to demonstrate this suppression MDSCs were first generated from the bone marrow of a C57BL/6 mouse and cultured in the presence of Granulocyte Macrophage-Colony Stimulating Factor (GM-CSF) and Interleukin-6 to promote MDSC expansion. T cells were then extracted from the splenocytes of the mouse so that the effect on proliferation could be observed. A suppressive assay with the generated and extracted cells was then set up in ratios of 1:1, 1:2, and 1:5, MDSCs to T cells, with Carboxyfluorescein succinimidyl ester (CFSE), a dye measuring proliferation. After three days of incubation the cells were stained with fluorochromes labeled with CD4 and CD8 antibodies to distinguish the two types of T cells. The proliferations of T cells alone were then measured as a control for both types of T cells. Then the proliferations of the different ratios of MDSCs to T cells were measured. The results concluded that in the presence of MDSCs not only was the proliferation of T cells suppressed but the amount of MDSCs present also affected the amount the T cells proliferated. Having the knowledge that Myeloid Derived Suppressor Cells Suppress the proliferation of T cells, the next step is to inhibit the pathways of MDSCs that cause T cells to be unresponsive and induce T cell apoptosis in strides to making immunotherapy a more effective treatment for cancer.

2016 Student Fellow Abstracts

Jordan Barnes
Clafin University
Mentor: Besim Ogretmen, PhD

ABSTRACT

A study on the relationship of the presence of Human Papilloma Virus and response to treatment in cervical cancers

Human Papilloma Virus (HPV) is a sexually transmitted virus that is associated with cervical cancer. HPV early proteins, E6 and E7, have cancer-killing properties and maintain cell viability by disrupting the cell growth cycle. It is hypothesized that when HPV+ (SiHa) and HPV- (C33a) cervical cancer cells are treated with anti-cancer drugs, cisplatin and a ceramide analog, the HPV+ cells would respond better to treatment. Using either cisplatin or the ceramide analog in dose titration treatments on HPV+ and HPV- cells, we determined that both HPV- and HPV+ cells are more sensitive to ceramide versus cisplatin. However, HPV- cells displayed a higher sensitivity than HPV+ cells to 15.8 μ M cisplatin (50% vs. 43% cell death). To determine if the HPV E6 and E7 proteins in cancer cells have therapeutic effects and lead to cancer cell death we overexpressed E6 and E7 proteins in HPV- cells and treated them with cisplatin. Using the MTT colorimetric assay we assessed cell viability and discovered an increase in cell death as compared to the control. Taken together these results indicate a role of HPV E6 and E7 proteins in mediating cancer cell death. The results have implications for prostate cancer, as recent studies have begun to elucidate the mechanisms by which sphingolipid metabolism and signaling may regulate tumor growth and progression. These mechanisms, such as the intracellular protein targets of sphingolipids, are now the focus for the development of new chemotherapeutic approaches for diseases such as prostate cancer.

Taaliah Campbell
Clafin University
Mentor: Shikhar Mehrotra, PhD

ABSTRACT

Vitamin C and Immunotherapy

The immune system is a network of cells, tissues, and organs that work together collectively to protect the body from infection. All cells involved in the immune system have extremely significant functions to ensure that the body operates properly. T cells are among the major cells that assist in the well-being of the immune system. Given the successful use of tumor reactive T cells in controlling tumor growth upon adoptive transfer, the strategies that improve persistence and function of T cells in an oxidative tumor microenvironment hold immense translational potential. Since Vitamin C also possesses high anti-oxidant capacity, we postulated that T cells programmed with Vitamin C will exhibit increased anti-tumor property. Thus, in this study, different dosage amounts of vitamin C, and growth factors consisting of Interleukin-2, CD3, and CD28 were combined to stimulate T cells. The results from our pilot experiments indicate that Vitamin C modulates the proliferation, and cell surface marker expression of various adhesion molecules that play an important role in T cell mediated tumor immunotherapy. Future *in vitro* characterization and *in vivo* tumor studies will be needed to comprehensively establish the role of Vitamin C in T cell immunomodulation, and if it can be used to boost immunotherapy.

London Knight
South Carolina State University
Mentor: Dennis Watson, PhD

ABSTRACT

Friend Leukemia Integration 1 (FLI1) as a contributor to tumor aggression in malignant peripheral nerve sheath tumors and neurofibromas through an interaction with Ras regulation

FLI1 is a member of the Ets transcription family and is associated with cellular differentiation, proliferation, survival, migration, and invasion; all pathways important to the development of cancer. Ras is an oncogene that activates cell proliferation and may interact with Ets genes. MPNSTs have NF1 mutations that allow Ras activation. Observations show that in the absence of FLI1, embryonic fibroblasts do not undergo senescence following Ras activation. Furthermore, loss of FLI1 has been contributed to aggressiveness in breast cancer. With these factors considered, our research examined the expression of FLI1 in neurofibromas and MPNSTs as a means to measure oncogenic aggressiveness. The expression of FLI1 was evaluated using techniques such as qPCR, Western Blot analysis, and IHC to observe cellular distribution. Results from qPCR were mixed with varied expression of FLI1 in the more aggressive tumors. Western Blot also showed varied expression of FLI1, though loss of FLI1 in the more aggressive tissues was consistent. IHC results favored loss of FLI1 in aggressive tumors; however exact results could not be obtained due to the similarity of the distribution levels. A correlation of FLI1 loss among aggressive tissues was observed, however the results were not consistent enough to support or refute the hypothesis. Altogether, our research examined FLI1 as a potential biomarker for tumor aggression in MPNSTs and neurofibromas.

Kenyatta Walker
South Carolina State University
Mentor: David Turner, PhD

ABSTRACT

The Impact of Reactive Sugar Metabolites on Pubertal Mammary Gland Development and Increased Cancer Risk

Advanced Glycation End-Products (AGEs) are a product of glycated sugars bound to macromolecules such as proteins, DNA, and lipids. AGE accumulation in our bodies is also increased by poor diet. When these molecules bind to a receptor such as the receptor for AGE (RAGE), a surface binding receptor, it creates an environment susceptible to inflammation and pro-oxidation. The mammary gland is essential to the growth of the breast. It is possible that the accumulation of AGEs throughout pubertal mammary gland development can lead to alterations and abnormalities potentially caused by increased inflammation and oxidative stress. This may create an environment suitable for cancer development in later life. In this study it is hypothesized that mice fed a diet high in AGEs will impact pubertal mammary gland development leading to increased risk of cancer.

Methods: In order to test this hypothesis, precise protocols were chosen that would best complete this study in the limited time frame. The FVB/N mouse was the chosen animal model. Embedding, Whole Mounting, Immunohistochemistry staining with Ki67, Hematoxylin and Eosin staining, and Dot blot were all performed in order to obtain data to support our hypothesis.

Results: After collecting mammary glands from the 8 week mice fed either a high or regular AGE diet, we found that ductal extension as well as the terminal end buds' area, and rate of proliferation were affected by the high AGE diet. In the mice fed a high AGE diet the ductal tension was reduced in distance from the gland's Lymph node compared to the control group of mice fed a regular diet. Whole Mounting showed that the Terminal End Bud (TEB) areas were greater in size as well in mice fed the high AGE diet. Dot Blot assay using serum from both diet groups confirmed that there were higher levels of circulating AGEs in mice fed the diet high in AGEs.

Conclusion: It is possible that our bad habits of eating while we go through puberty can have long term effects on our health when we get much older. The accumulation of AGEs alters the development of the pubertal mammary gland by increasing cell proliferation of the TEBs. Future studies will examine if this could possibly lead to an increased risk of cancer risk in later life.

2017 Student Fellow Abstracts

Rosaline Achiangia
Voorhees College
Mentor: Brandon Welch, PhD

ABSTRACT

Review of Web-based Family Health History Tools

It is important for everyone to know his/her family's health history (FHx). Knowing one's FHx and sharing it with his/her physician helps in creating better chances of identifying the possibilities of preventing specific diseases from happening or catching them at an earlier stage. In this research, we identified several web-based tools that can be used by individuals to collect FHx. These FHx tools have unique features, approaches, advantages, and disadvantages. Some of the FHx tools have been successfully used, others haven't; some are designed solely for patients, while others are intended to be used by both patients and physicians. The purpose of this research is to identify key FHx tool features and approaches that have successfully worked in collecting FHx and those that weren't effective. These insights will inform the development of ItRunsInMyFamily.com, a new FHx tool that is currently being developed at MUSC to make the collection of FHx easier, better and more effective.

Taaliah Campbell
Clafin University
Mentor: David Turner, PhD

ABSTRACT

Defining the Effects of a High AGE Diet on Mammary Development during Puberty

The mammary gland is a unique organ because its functional development and differentiation are completed postnatally during puberty, pregnancy, lactation and involution. These cycles of mammary gland development are potential windows of breast cancer susceptibility. Due to links between diet and increased risk of breast cancer we hypothesized that consuming large amounts of sugar derived metabolites known as advanced glycation end products (AGEs) during puberty may cause mammary gland dysregulation and increase the risk for future pre-neoplastic lesions. AGEs are a heterogeneous group of macromolecules that are generated through non-enzymatic glycation and oxidation of proteins, lipids, and nucleic acids. Accumulation of AGEs leads to pro-inflammatory and pro-oxidant effects which can contribute to the development and complications associated with multiple chronic diseases. Our research shows that consuming a high AGE diet causes the formation of hyperplastic lesions which resemble pre-neoplastic lesions.

To take this research further, this study examines the effects of diet switching on the formation of hyperplastic lesions. Mice (3 weeks old) were initially fed the high AGE diet for 4 weeks followed by a regular diet for 5 weeks. This model mimics the concept of “metabolic memory” which postulates that events that occur early in disease onset are imprinted within cells and promote disease progression later in life. These studies show that consuming a high AGE diet during pubertal development still alters mammary gland morphology and promotes the formation of hyperplastic lesions, despite intervention with the regular diet. In summary, this supports the theory that a diet high in AGE metabolites during puberty may induce metabolic memory and may represent a window of susceptibility for breast cancer.

Nakea Pennant
South Carolina State University
Mentor: Shikhar Mehrotra, PhD

ABSTRACT

Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract

The immune system is the body's defense system it is comprised of a network of cells, tissues, and organs that work together collectively to protect the body from infections and diseases. All cells involved in the immune system have extremely significant functions to ensure that the body operates properly; T cells are among the major cells that assist in the well-being of the immune system. In adoptive immunotherapy the survival and effectiveness of T cells is the most important. The mitochondrion is the "power house" of the cell; it converts oxygen and nutrients into chemical energy to produce adenosine triphosphate (ATP). ATP gives the cells the energy required for its metabolic activities. The mitochondria control cell signaling, cellular differentiation, cell cycle and growth. c-Jun N-terminal kinases (JNK) activity regulates the cellular function of T cell growth, differentiation, survival, and apoptosis. Therefore, the principal objective of this study was to test if interfering with JNK pathway will modulate the Jurkat E6-1 T cell viability and metabolism. Studies were performed by using cytotoxic drugs Staurosporine and Thapsigargin for activating Jurkat T cells, and determining the role of JNK on viability and glucose uptake by pharmacologically interfering with this pathway.

The JNK Inhibitor, SP600125 was used to inhibit JNK expression in the Jurkat E6-1 T cells that were treated with the drugs Staurosporine and Thapsigargin (to induce increased JNK activation). The experimental read-outs included assessing the viability (using 7ADD), membrane potential (using TMRM), glucose uptake (using 2NBDG), and effector cytokine function (using IL2 ELISA). Flow Cytometry/FACs analysis will be utilized to identify the differences, increase and decrease of cell death between the different treatments of the cells.

Kenyatta Walker
South Carolina State University
Mentor: Kenyatta Walker, PhD, MPH

ABSTRACT

Perceptions about HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents

Viruses can cause many health problems, both serious and mild. Some of the most commonly known viruses cause illnesses such as the flu, a common cold and AIDs. One of the most overlooked viruses is the HPV virus. HPV stands for the Human Papillomavirus. HPV is the most common sexually transmitted infection. HPV is so common that nearly 80% of all sexually active people will be infected by one strain of HPV in their lifetime. Some people can go years without having any symptoms, enabling them to continually pass the virus on to multiple sexual partners, if necessary protective precautions are not taken. For most people, the body usually clears itself of the virus over time. However, depending on which strain of the virus a person has, failure to clear the virus can be detrimental and lead to life changing diseases. HPV vaccination is the most efficient way to avoid HPV infection. Given the availability of an effective vaccine to prevent HPV-related cancers, it seems intuitive that individuals would want to get themselves and their loved ones vaccinated, but unfortunately the vaccine is underutilized in South Carolina. Vaccination completion rates in South Carolina are only 54% for females and 26% for males. These rates are much lower in comparison to females' and males' vaccination rates in the United States overall. This study aimed to characterize barriers, facilitators and strategies for improving HPV vaccination rates in South Carolina.

Methods: Six focus groups were conducted with community members in diverse parts of South Carolina. These focus groups were recorded, then later transcribed verbatim in a Word document. The transcribed audio files were then coded into themes and subthemes using a data dictionary format.

Results: Themes and subthemes were created based on common responses to similar open-ended questions asked during each meeting. The most common barriers to HPV vaccination identified were: 1) lack of awareness and thorough understanding of the relationship between HPV infections, associated cancers and HPV vaccines, 2) High cost and lack of coverage of vaccines for the underinsured and young adults and 3) health care providers lack of time to administer the vaccine given their heavy work load. The most common facilitators to HPV vaccination were: 1) allowing doctors to write prescriptions for the vaccine to be administered at local pharmacies to optimize accessibility to the vaccine and 2) an immunization registry that can help track vaccination completion rates. Suggestions for optimal HPV vaccination strategies included 1) making the vaccine required 2) finding ways to inform students through school events and 3) mobile health units that target the underserved and highly uninsured communities.

Discussion: In the current study, barriers, facilitators and potential strategies for improving HPV vaccination were explored within regionally and ethnically diverse communities in South Carolina. The theme of uncertainty of the vaccine's efficacy were similar in this study to the findings from a national study among different racial/ethnic adolescent girls. Specifically, our study in South Carolina also showed a significant distrust of health providers. Tackling this low vaccination problem will not be easy but with the efforts to bridge the gap in how information on HPV and available vaccines are distributed to help urge parents and young adults, vaccination rates can rise, immunity of HPV can be reached and HPV related cancers can be prevented.

2018 Student Fellow Abstract

Daniel Farquarson
Clafin University
Mentor: Patrick Woster, PhD

ABSTRACT

CD38 Inhibition and Up Regulation of the Immune System

It is well known that NAD⁺ within cells plays a part in many pathways acting as a provider of energy. A major consumer of NAD⁺ within cells is the CD38 protein commonly found on immune cells which turns NAD⁺ into cyclic ADP- γ which is name further modified in used in calcium gate ion channels. The purpose of this experiment is to investigate potential compounds that can inhibit CD38 thus increasing available NAD⁺ within immune cells stimulating the immune system. The compounds were selected in-silico using pharmacophore docking simulations using databases obtained from enamine containing glycomimetic and nucleoside mimetic compounds. The results showed the selected seven compounds had multiple confirmations of which displayed low S (Kcal/mol) values, and are active in the pharmacophore region of cd38 in a similar manner as NAD⁺ and cyclic ADP- γ . This study successfully selected compounds that have the potential to interact with and inhibit the CD38 protein further studies will need to be done to determine an immune cell line where these drugs can be tested in vitro.

2019 Student Fellow Abstracts

India Eady
Clafin University
Mentor: Danyelle Townsend, PhD

ABSTRACT

Heme-Oxygenase 1 levels in Lung Cancer Patients

Lung Cancer is a one of the most common forms of cancer in the United States, with a 5-year survival rate at 6%. There are two types of lung cancer classified as small cell and non-small cell lung cancer with the latter having a more favorable outcome. Our laboratory has been involved in the pre-clinical development of ME-344, a flavonoid based chemotherapeutic. ME-344 is in clinical trials with lung cancer patients. We have shown the drug binds to Heme-Oxygenase 1 (HO-1) within cells. HO-1 is a heme- containing protein localized in the endoplasmic reticulum and a member of the heat shock family of proteins. We have shown that binding of ME-344 to HO-1 leads to translocation to the mitochondria and cell death. In this study we explored whether HO-1 was up-regulated in lung cancer patients. mRNA analysis showed that high levels of HO-1 expression is correlated with a lower 5- year survival rate.

ABSTRACT

Motivation for Tobacco Cessation in Adolescents

Background: Cigarette smoking is major public health concern and is related to several health-related issues including cancer, chronic obstructive pulmonary disease, heart attack and stroke. Many individuals who smoke cigarettes began smoking before the age of 18, yet there is a lack of research involving adolescents who smoke. Adolescent smokers are interested in quitting, but not much is known about the reasons for wanting to quit smoking. There may also be important differences in the reasons for wanting to quit smoking among younger compared to older adolescents who smoke. The secondary analysis of the parent trial investigated the reasons that younger and older adolescents wanted to quit smoking.

Methods: Participants in the parent trial (N=157) were between the ages of 14-21 and were daily smokers. Their smoking history, smoking characteristics, demographics, along with the reasons for wanting to quit smoking, confidence to quit, and readiness to quit were assessed. Participants were divided into two groups based on age; 1) younger adolescents (14-18), and 2) older adolescents (19-21). Only the data from participants that were randomized into the study was analyzed.

Results: The results of this secondary analysis find that older adolescents prioritize their health more than younger adolescents. Though both find their health to be of importance, on a scale of 0-4, 49% of younger adolescents are very concerned (4) with developing a sickness with age. While 20% are only somewhat concerned (2) with developing a sickness. On the other hand, 71% of older adolescents ranked their concern for sickness at extremely important (4), and 19% of the older group was concerned (3). The younger group however, was more impacted by their family to want to quit smoking cigarettes. Forty-four percent of the younger adolescents said that someone dying or getting sick in their family from cigarette smoking was very important (4) to them as a reason for quitting. Only 29% of the older adolescents found this to be very important. Finally, 30% of the older group found this to be not important (0) at all.

Conclusion: This study found that health and wellness are important motivators for both younger and older adolescents in wanting to quit smoking, though older adolescents may be more motivated by long-term health consequences compared to younger adolescents. Further data needs to be gathered on the reasons for quitting in adolescents and young adults. These reasons for wanting to quit may drive one's motivation to change their lifestyle. It is important that adolescents be included in clinical trials, and that they are given the means and resources to be able to stop smoking.

Appendix H: 2016-2019 MUSC Hollings Cancer Center Shared Resources Group Schedules

Shared Resources rotations began in the summer of 2016; therefore, there are no Shared Resources Rotations to note for 2015.

2016 MUSC Hollings Cancer Center Shared Resources Groups

Group A	Kai Cobb
	Thomas Wallace
	Mina Gunter

Group D	Kenyatta Walker
	Rosa Alcantar
	Daniel Patterson

Group B	Tanner Coleman
	Taaliah Campbell
	London Knight
	Nakea Pennant

Group E	Brianna Jacobs
	NiAsia Hazelton
	Jamicca Green
	Jordan Barnes

Group C	Christina Alford
	Malik Leach
	Taylor Trachtenberg
	Jerrica Walden

2016 MUSC Hollings Cancer Center Shared Resources Group Schedule

	June 10, 2016	June 17, 2016	June 24, 2016	July 8, 2016	July 15, 2016
Biorepository & Tissue Analysis • BE 421 – 3:30 PM	Group A	Group C	Group B	Group D	Group E
Cell & Molecular Imaging Core Facility • DD 507 – 2:00 PM	Group B	Group A	Group D	Group E	Group C
Flow Cytometry and Cell Sorting Core • HCC 324 – 2:00 PM	Group E	Group D	Group C	Group B	Group A
Genomics • BE 433 – 11:00 AM	Group C	Group B	Group E	Group A	Group D
Lipidomics • CRI 505c – 10:00 AM	Group D	Group E	Group A	Group C	Group B

2017 Shared Resources Groups (Four groups with four Student Fellows, Two groups with two Student Fellows)

Group A (4 people): Rosaline Achiangia, Sean Bloos, Tiare Brown, Taylor Jones

Group B (2 people): Kenyatta Walker, Chloe Keeve

Group C (2 people): Taaliah Campbell, Allison Swiecki

Group D (4 people): Starr Frazier, Jerrica Walden, Sebrena Brink, Elizabeth Davis

Group E (4 people): Jennifer William, Kennede Duncan, Melody Vollbrecht, Heidi Carpenter

Group F (4 people): Danielle Garrett, Nakea Pennant, Nic Elrod, Daijah Thibodeaux

2017 Shared Resources Group Schedule

HCC Shared Resource	June 9, 2017	June 16, 2017	June 23, 2017	July 7, 2017	July 14, 2017	July 21, 2017
LIPIDOMICS @ 10 AM	A&C: 6 people	B	NO STUDENTS	D	E	F
FLOW CYTOMETRY & CELL SORTING UNIT @ 2 PM	NOT AVAILABLE	NOT AVAILABLE	D&C: 6 people	E&B: 6 people	F	A
CONFOCAL MICROSCOPY (CELL & MOLECULAR IMAGING) @ 2 PM	NOT AVAILABLE	D&C: 6 people	E	F	A	B
BIOREPOSITORY & TISSUE ANALYSIS @ 3:30 PM	D	E	F	A	B	C
DNA SEQUENCING (GENOMICS) @ 11 AM	E&B: 6 people	F	A	NOT Available	C	D
CELL GROWTH & THERAPY UNIT @ 1 PM	F	A	B	C	D	E

2018 MUSC Hollings Cancer Center Shared Resources Groups (Four groups with three Student Fellows and two groups with two Student Fellows)

Group A (3 people): Erica Bennett, Kimberly King, Sara Wallam

Group B (3 people): Jocelyn Bennett, Jamarni Robinson, Pascha Dawson

Group C (3 people): Tamara Washington, Ariel Moore, Ernest Jenkins

Group D (3 people): Julia Hepburn, Brandon Sutton

Group E (3 people): Felicity Johnson, Arabia Satterwhite, Daniel Farquharson

Group F (2 people): Mikayla Johnson, Ta'Myiah Reed, Danielle Beaufort

2018 MUSC Hollings Cancer Center Shared Resources Group Schedule

HCC Shared Resource	June 15, 2018	June 22, 2018	June 29, 2018	July 13, 2018	July 20, 2018	July 27, 2018
LIPIDOMICS @ 10 AM CRI (Children's Research Institute) 505C	A	B	C	D	E	F
FLOW CYTOMETRY & CELL SORTING UNIT @ 2 PM HO 324 (3 rd floor of the Hollings Cancer Center)	B	C	D	E	F	A
CONFOCAL MICROSCOPY (CELL & MOLECULAR IMAGING) @ 2 PM Drug Discovery Building 5 th Floor Elevators (see below)	C	D	E	F	A	B
BIOREPOSITORY & TISSUE ANALYSIS @ 10 AM BEB (Bioengineering Building) 421	D	E	F	A	B	C
DNA SEQUENCING (GENOMICS) @ 11 AM BEB (Bioengineering Building) 403	E	F	A	B	C	D
CELL GROWTH & THERAPY UNIT @ 1 PM Clinical Sciences Building Room 217 (across from SCTR – see below)	F	A	B	C	D	E

2019 MUSC Hollings Cancer Center Shared Resources Groups (Six groups with three Student Fellows per group)

Group A (3 people): Reagan Hill, Christina Adams, Makayla Cummings

Group B (3 people): India Eady, Mikayla Johnson, Khalin Taylor

Group C (3 people): Ta'Myiah Reed, Briah Gordon, Danielle Beaufort

Group D (3 people): Abigail Jackson, Angel Gilmore, Bria Sanders

Group E (3 people): Arabia Satterwhite, Greta Tautkus, Antiqua Gathers

Group F (3 people): Ashley Hill, Yatia Lancaster, Mirakle Avery

2019 MUSC Hollings Cancer Center Shared Resources Group Schedule

HCC Shared Resource	June 14, 2019	June 21, 2019	June 28, 2019	July 5, 2019	July 12, 2019	July 19, 2019
LIPIDOMICS @ 10 AM CRI (Children's Research Institute – see below) 505C			D	B / C	E / F	A
FLOW CYTOMETRY & CELL SORTING UNIT @ 2 PM HO 324 (3 rd floor of the Hollings Cancer Center – see below)	B	A / E	F		C	D
CONFOCAL MICROSCOPY (CELL & MOLECULAR IMAGING) @ 2 PM Drug Discovery Building 5 th Floor Elevators (see below)	C	B		A / E	D	F
BIOREPOSITORY & TISSUE ANALYSIS @ 11 AM BEB (Bioengineering Building) 421	D	C / F	A		B	E
DNA SEQUENCING (GENOMICS) @ 11 AM BEB (Bioengineering Building) 403	A / F		C / E	D		B
CELL GROWTH & THERAPY UNIT @ 1 PM Clinical Sciences Building Room 217 (across from SCTR – see below)	E	D	B	F	A	C

Appendix I: Academic Accomplishments to Date of the 2015-2019 Student Fellows

Year of Program Participation: 2015

❖ These are recent student fellows who participated in the 2015 program.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Kadeidre Gaymon SC State University	Mentor: Marvella Ford, Ph.D. Research Project: Evaluating Rates of Overweight/Obesity and Physical Activity in a Diverse Sample of South Carolina Breast Cancer Survivors	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2015 MUSC Summer Undergraduate Research Program Honors: SCAMP Program Member South Carolina State University's Honors College member Legislative Incentive for Future Excellence (LIFE) Scholarship recipient President of the Alpha Xi Chapter of Delta Sigma Theta Sorority Inc. Health Professions Society Member American Chemical Society Member National Society of Black Engineers (NSBE) member Student Health and Peer Educator (SHAPE) Program member for Brooks Health Center Health Coach for Orangeburg Regional Medical Center Multicultural Student Nurses Association Treasurer Student Honor Council Representative Student Nurses Association member	N/A	Graduated from SC State University in Spring 2016 with a Bachelor's in Chemistry and a minor in Biology. Graduated from the Accelerated Bachelor of Science in Nursing Program at MUSC in Spring 2018.

Ms. Casseanna Holmes (Dual Year Participant 2014/2015) Voorhees College	Mentor: Danyelle Townsend, Ph.D. Research Project: Impact of antioxidant enzymes on breast cancer patients: An evaluation of triple negative and receptor expression	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2015 MUSC Summer Undergraduate Research Program	Has taken the GRE	Graduated from Voorhees College. Will attend Campbell University in the fall – PhD in Pharmaceutical Sciences.
Mr. Malik Leach (Dual Year Participant 2015/2016) Voorhees College	Mentor: David Turner, Ph.D. Research Project: The Contribution of AGEs to Tamoxifen Resistance	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2015 MUSC Summer Undergraduate Research Program	N/A	Transferred from Voorhees College to Coastal Carolina University in Fall 2016.
Ms. Ludy Martinez Claflin University	Mentor: Shikhar Mehrotra, Ph.D. Research Project: The immunosuppressive Ability of Myeloid Derived Suppressor Cells on T cells	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2015 MUSC Summer Undergraduate Research Program 2015 Annual Biomedical Research Conference for Minority Students (ABRCMS) Honors: Novartis Institutes for BioMedical Research (NIBR) Summer Scholar, 2016 Savannah River Nuclear Solutions Scholarship Recipient	N/A	Graduated from Claflin University as Biochemistry major in 2017. Currently attending Edward College of Osteopathic Medicine in the Doctor of Osteopathic Medicine Program.

Ms. Cheyauna Mitchell Voorhees College	Mentor: Victoria Findlay, Ph.D. Research Project: Micro-RNA Mediated Negative Regulation of Caveolin-1 as a Mechanism Driving Breast Cancer Disparity	MUSC Hollings Cancer Center	Publications: No publications to date Presentations: 2015 MUSC Summer Undergraduate Research Program	Has taken the GRE	Graduated from Voorhees College. Graduated from Alabama A&M University in December 2016 with a Master's Degree in Biology, concentration in Physiology.
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Year of Program Participation: 2016

These are recent student fellows who participated in the 2016 program.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Rosa Alcantar Claflin University	Mentor: Juan Luque, Ph.D. Research Project: HPV and Cervical Cancer: Standardized Questionnaire on Opinions and Experiences of the Latina Women	NIH/NCI R25E	Publications: Luque JS, Tarasenko YN, Li H, Davila CB, Knight RN, Alcantar RE. Utilization of cervical cancer screening among Hispanic immigrant women in coastal South Carolina. Journal of Racial and Ethnic Health Disparities 2017;July 12; Epub ahead of print. Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Graduated from Claflin University in May 2018.
Ms. Christina Alford University of South Carolina	Mentor: Sundar Balasubramanian, Ph.D. Research Project: Yogic Breathing as an Adjunct Mind-Body Intervention to Reduce Side Effects of Cancer Treatment	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium Honors: National Society of Collegiate Scholars National Honor Society-Alpha Lambda Delta	N/A	Graduated from the University of South Carolina in 2016. Currently employed as a Research Assistant with Clinical Trials of South Carolina.
Ms. Jordan Barnes Claflin University	Mentor: Besim Ogretmen, Ph.D. Research Project: A Study on the Relationship of the Presence of Human Papilloma Virus and Response to Treatment in Cervical Cancers	Department of Defense (HBCU)	Publications: Barnes JN, O. Bagasra. Sea Sponge inspired biomaterial to generate vascular tree from human CD34+ cord blood cells. ABRCMS Annual meeting, Seattle, WA, Nov11-14, 2015. Presentations: 2016 MUSC SC CHEC Research Colloquium Honors: 2016 Moses and Emma Harvin Scholarship	N/A	Graduated from Claflin University as a Biology Major.

Ms. Taaliah Campbell (Dual Year Participant 2016/2017) Claflin University	Mentor: Shikhar Mehrotra, Ph.D. Research Project: Vitamin C and Immunotherapy	Department of Defense (HBCU)	Publications: Randise, J. F., Krisanits, B. A., Nogueira, L. M., Helke, K. L., Campbell, T., Findlay, V. J., & Turner, D. P. Dietary-AGE ingestion during puberty modifies the breast microenvironment to alter mammary gland development: Linking diet, development and breast cancer risk. American Association for Cancer Research, 2018; 78(13). Presentations: 2016 MUSC SC CHEC Research Colloquium Annual Biomedical Research Conference for Minority Students (poster) Honors: Claflin University NIH Rise Program	Has taken the GRE- August 2017	Graduated from Claflin University in May 2018. Currently employed as a Science, Technology, Engineering and Mathematics (STEM) Tutor for the Freshman College at Claflin University.
Ms. Kai Cobb Claflin University	Mentor: Gayenell Magwood, Ph.D., RN Research Project: The Relationship between Cardiometabolic Risk Factors and African-American Breast Cancer Survivors	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2016 ABRCMS Conference The Perry Halushka 2016 MUSC Research Day (poster)	Has taken the GRE	Graduated from Claflin University. Completed two Bioinformatics Internships at the University of Auburn and the University of Georgia. In Fall 2019 enrolled in the Master of Public Health (MPH) Program in Epidemiology at the University of South Carolina.

Mr. Tanner Coleman University of South Carolina	Mentor: Kevin Gray, M.D. Research Project: Racial and Socioeconomic Differences in Cortisol Reactivity to Trier Social Stress Test in Adult Smokers: An Interim Analysis	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium Honors: University of South Carolina Honors College	Has taken the GRE	Graduated from the University of South Carolina in May 2018. Employed as a Research Specialist at the University of South Carolina from June 2018- July 2019. Currently enrolled in the Master of Science in Genetic Counseling Program at the University of North Carolina Greensboro, with an expected graduation date of May 2021.
Ms. Jamicca Green Claflin University	Mentor: Chanita Hughes Halbert, PhD Research Project: Examining Health Behaviors and Weight Management Issues in Primary Care	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 Annual National Conference on Health Disparities	N/A	Graduated from Claflin University in May 2017.
Ms. Mina Gunter University of South Carolina	Mentor: Philip Howe, Ph.D. Research Project: Role of ER-Golgi Trafficking Genes in Breast Cancer Metastatic Progression	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina as a Biology Major in May 2018. .

Ms. NiAsia Hazelton University of South Carolina – Beaufort	Mentor: Marvella E. Ford, Ph.D. Research Project: Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium Honors: Trio Spirit Award Sand Shark Scholars Mentor/ Teacher Assistant Gamma Beta Phi Honor Society Alpha Mu Gamma Foreign Language Honors Society Ronald McNair Scholar President of University of South Carolina-Beaufort’s Human Service Club.	Took the GRE in Summer of 2016	Graduated from the University of South Carolina-Beaufort in May 2017. Applied to Master of Public Health Programs at: • Medical University of South Carolina (MUSC) • University of South Carolina (USC)-Columbia Graduated from the University of South Carolina’s MPH Program, with a focus on health services policy and management.
Ms. Brianna Jacobs University of South Carolina	Mentor: Danyelle Townsend, Ph.D. Research Project: The Effect of Redox Enzymes and Polymorphisms on Triple Negative Breast Cancer in African-American Women	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2018 New England Science Symposium (NESS) at Harvard University Honors: Graduated with Leadership Distinction in Diversity & Social Advocacy and Research	Has taken the GRE	Graduated from the University of South Carolina in December 2016 and began employment as a Program Assistant I with the South Carolina Department of Health and Human Services Medicaid Processing Center of the Midlands. Applied to Master of Public Health Programs at: • UNC - Chapel Hill • UC Berkeley • Boston University • Emory University, • University of Michigan - Ann Arbor Accepted into Boston University, Emory University, and the University of Michigan-Ann Arbor. Graduated from the MPH Program, at

					the University of Michigan-Ann Arbor. Completed a summer 2018 internship at the University of Texas MD Anderson Cancer Center in Houston as a part of the Cancer Prevention Research Training Program (CP RTP). Currently a NCI Communications Fellow (NCF) in the Outcomes Research Branch (ORB).
Ms. London Knight South Carolina State University	Mentor: Dennis Watson, Ph.D. Research Project: Friend Leukemia Integration 1 (FLI1) as a Contributor to Tumor Aggression in Malignant Peripheral Nerve Sheath Tumors and Neurofibromas through an Interaction with Ras Regulation	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium Honors: Miss South Carolina State University, 2016 – 2017	N/A	Graduated from South Carolina State University in May 2017.
Mr. Malik Leach (Dual Year Participant 2015/2016) Voorhees College	Mentor: Kathleen Cartmell, Ph.D., MPH Research Project: A Systematic Review of Patient Navigation Interventions To Improve Patient Education and Enrollment in Cancer Clinical Trials	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Transferred to Coastal Carolina University in Fall 2016.
Mr. Daniel Patterson University of South Carolina	Mentor: Steven Rosenzweig, Ph.D. Research Project: NEDD9 Mutations Affect Levels of Protein Expression in Head and Neck Squamous Cell Carcinoma	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2016 Hollings Cancer Center Research Retreat (poster)	N/A	Graduated from the University of South Carolina in May 2019 with a degree in Biomedical Engineering. Currently employed as a Junior Project/ Product Management Support Analyst.

			The Perry Halushka 2016 MUSC Research Day (oral)		
Ms. Nakea Pennant (Dual Year Participant 2016/2017) South Carolina State University	Mentor: Kristin Wallace, Ph.D. Research Project: Somatic Genetic Mutations in African American and Caucasian American Patients with Colorectal Cancer	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	Has taken the GRE	Graduated from South Carolina State University in 2018. Currently enrolled in a Biological Sciences PhD Program at Clark Atlanta University, expected graduation May 2022.
Ms. Taylor Trachtenberg University of South Carolina	Mentor: Howard Becker, Ph.D. Research Project: The Effect of Repeated Stress on Brain Stress Systems: Implications for Cancer Development	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina in May 2018.
Ms. Jerrica Walden (Dual Year Participant 2016/2017) University of South Carolina	Mentor: Victoria Findlay, Ph.D. Research Project: miR-204 Expression Disrupts Normal Lactation in Mammary Gland Development	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina. Currently enrolled in an MPH program at Vanderbilt University. Graduation date: December 2019.
Ms. Kenyatta Walker (Dual Year Participant 2016/2017) South Carolina State University	Mentor: David Turner, Ph.D. Research Project: The Impact of Reactive Sugar Metabolites on Pubertal Mammary Gland Development and Increased Cancer Risk	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Graduated from South Carolina State University in May 2018.

Mr. Thomas Wallace University of South Carolina	Mentor: Bart Smits, Ph.D. Research Project: Mutations of TOX3 affect Breast Cancer Susceptibility in Non-Hispanic White and African-American Women	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
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Year of Program Participation: 2017

❖ These are recent fellows who participated in the 2017 program. Therefore it is too early to report additional accomplishments at this time. Many accomplishments are expected to occur during the course of the next few years following their participation.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Rosaline Achiangia Voorhees College	Mentor: Brandon Welch, PhD Research Project: Review of Web-based Family Health History Tools	Department of Defense (HBCU)	Publications: No publications to date. Manuscript with Dr. Welch is in progress. Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from Voorhees College in May 2018. Currently employed as a Recreation Assistant at Caring Heart Rehabilitation and Nursing Home.
Mr. Sean Bloos University of South Carolina	Mentor: Phillip Howe, Ph.D. Research Project: Mechanism of TGFβ-induced Cancer Stem Cell Formation through ILEI and LIFR	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium 2017 Perry Halushka MUSC Research Day (poster)	Taken the MCAT in lieu of the GRE	Graduated from the University of South Carolina. Currently enrolled in the Vanderbilt University Master of Public Health in Epidemiology Program.
Ms. Sebreana Brink Claflin University	Mentor: K. Michael Cummings, PhD, MPH Research Project: Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States	NIH/NCI R25E	Publications: Nahhas GJ, Brink S , Bansal-Travers M, O'Connor R, Heckman B, Alberg A, Cummings KM . Cigarette Brand Preferences of Adolescent and Adult Smokers in the United States. (Peer review) Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Tiare Brown Claflin University	Mentor: Gayenell Magwood, PhD, RN Research Project: Assessing the Relationship between the Life's Simple 7 Metric with Diabetes and Breast Cancer Risk in African American Women	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium 2017 Annual Biomedical Research Conference for Minority Students (poster)	N/A	Still enrolled at Claflin University.

Ms. Taaliah Campbell (Dual Year Participant 2016/2017) Claflin University	Mentor: David Turner, PhD Research Project: Defining the Effects of a High AGE Diet on Mammary Development during Puberty	Department of Defense (HBCU)	Publications: Randise, J. F., Krisanits, B. A., Nogueira, L. M., Helke, K. L., Campbell, T., Findlay, V. J., & Turner, D. P. Dietary-AGE ingestion during puberty modifies the breast microenvironment to alter mammary gland development: Linking diet, development and breast cancer risk. American Association for Cancer Research, 2018; 78(13). Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium 2017 Annual Biomedical Research Conference for Minority Students (poster) Honors: Claflin University NIH Rise Program	Taken the GRE	Graduated from Claflin University in May 2018. Currently employed as a Science, Technology, Engineering and Mathematics (STEM) Tutor for the Freshman College at Claflin University.
Ms. Heidi Carpenter University of South Carolina	Mentor: Kristin Wallace, PhD Research Project: Tumor Infiltrating Lymphocytes and Colorectal Cancer Survival in African American and Caucasian Patients	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	Taken the MCAT in lieu of the GRE	Currently attending Medical School at the Medical University of South Carolina.
Ms. Elizabeth Davis University of South Carolina	Mentor: Marvella Ford, PhD Research Project: Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina. Enrolled in the MUSC College of Pharmacy.
Ms. Kennede Duncan University of South Carolina	Mentor: Erin McLure, PhD Research Project: Tobacco and Marijuana Co-occurrence in Adults: Identifying Co-use	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina in May 2018. Currently employed as a Research Assistant for the Pulmonary & Critical Care Clinical Research Program at the

	Mechanisms to Understand Prevalence and Patterns				Medical University of South Carolina.
Mr. Nicolas Elrod University of South Carolina	Mentor: Hiu Cheung, PhD Research Project: Development of a Mouse Model for Gynecologic Cancers	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	Taken the MCAT in lieu of the GRE	Graduated from the University of South Carolina. Currently attends Medical School at the University of South Carolina.
Ms. Starr Frazier Claflin University	Mentor: Marvella E. Ford, PhD Research Project: Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge in SC	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from Claflin University in May 2019.
Ms. Danielle Garrett University of South Carolina	Mentor: Juan Luque, PhD Research Project: Targeted Mammography Screening Interventions for Hispanic Women: A Systematic Review	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. Taylor Jones South Carolina State University	Mentor: Danyelle Townsend, Ph.D. Research Project: Evaluation of NF-kB Transcription Factor in Lung Cancer Patient Samples	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still Enrolled at South Carolina State University
Ms. Chloe Keeve University of South Carolina	Mentor: Bryan Heckman, PhD Research Project: Racial Disparities in Smoking Cessation Treatment Utilization	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina in May 2019.

Ms. Nakea Pennant (Dual Year Participant 2016/2017) South Carolina State University	Mentor: Shikhar Mehrotra, PhD Research Project: Understanding the Role of c-Jun N-Terminal Kinases (JNK) in T Cell Function and Metabolism for Improving Tumor Immunotherapy Abstract	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium	Has taken the GRE	Graduated from South Carolina State University in 2018. Currently enrolled in a Biological Sciences PhD Program at Clark Atlanta University, expected graduation May 2022.
Ms. Allison Swiecki University of South Carolina- Aiken	Mentor: Bart Smits, Ph.D. Research Project: Investigating the Connection Between Breast Cancer and Obesity Through TOX3 Regulation	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium Honors: 2019 Outstanding Senior Student Award at USC- Aiken	N/A	Graduated from the University of South Carolina- Aiken in May 2019.
Ms. Daijah Thibodeaux South Carolina State University	Mentor: Matt Carpenter, Ph.D. Research Project: Is Smoking History Affected by Cessation Fatigue and the Moderation of Race and Gender?	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium Honors: South Carolina State University Honors College Miss South Carolina State University, 2017-2018	Has taken the GRE	Graduated from South Carolina State University. Currently in the MPH Program at Morehouse School of Medicine, with an expected graduation date of May 2020.
Ms. Melody Vollbrecht University of South Carolina	Mentor: Nancy DeMore, MD Research Project: The Effect of hSFRP2 Monoclonal Antibody on Angiogenesis and Tumor Growth	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.

Ms. Jerrica Walden (Dual Year Participant 2016/2017) University of South Carolina	Mentor: Victoria Findlay, Ph.D. Research Project: miR-204 Expression Disrupts Normal Lactation during Mammary Gland Development	NIH/NCI R25E	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina. Currently enrolled in an MPH program at Vanderbilt University. Graduation date: December 2019.
Ms. Kenyatta Walker (Dual Year Participant 2016/2017) South Carolina State University	Mentor: Kathleen Cartmell, PhD, MPH Research Project: Perceptions about HPV Vaccination and Suggestions for Improving HPV Vaccination Rates among SC Residents	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2016 MUSC SC CHEC Research Colloquium 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from South Carolina State University in May 2018.
Ms. Jennifer William Voorhees College	Mentor: LaShanta Rice, PhD, MPH Research Project: Relationship between Weight Loss Advice and Weight Loss Attempts amongst Overweight and Obese Patients	NIH/NCI R25E	Publications: No publications to date Presentations: 2017 MUSC SC CHEC Research Colloquium	N/A	Graduated from Voorhees College in May 2018. .

Year of Program Participation: 2018

❖ These are recent fellows who participated in the 2018 program. Therefore it is too early to report additional accomplishments at this time. Many accomplishments are expected to occur during the course of the next few years following their participation.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Danielle Beaufort (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Shikhar Mehrotra, PhD Research Project: Understanding T cell Metabolism In Immunotherapy	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Erica Bennett Claflin University	Mentor: Ann-Marie Broome, PhD, MBA Research Project: The Effect of the Concentration of the Drug Resveratrol Packaged in Micelles on U87 and LN 229 Glioblastoma Cells	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Jocelyn Bennett South Carolina State University	Mentor: Bryan Heckman, PhD Research Project: Relationships between Cancer Diagnosis, Health Disparities, and Perceptions of Nicotine/Tobacco Products	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Graduated from South Carolina State University in May 2019 with Bachelor of Science Degree in Biology.

Ms. Pascha Dawson South Carolina State University	Mentor: Benjamin Toll, PhD Research Project: Smoking Cessation and High Risk Smokers who Decline to Participate in Research Studies	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Mr. Daniel Farquharson Claflin University	Mentor: Patrick Woster, PhD Research Project: CD38 Inhibition and Up Regulation of the Immune System	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Julia Hepburn University of South Carolina	Mentor: Brandon Welch, PhD Research Project: Assessing the Possible Uses of the Program Dokbot to Correct Existing Issues in the United States' Healthcare System	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Mr. Ernest Jenkins Claflin University	Mentor: Phillip Howe, PhD Research Project: The Effects of ILEI Expression on Breast Cancer	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Mikayla Johnson (Dual Year Participant 2018/2019) South Carolina State	Mentor: Alexander Alekseyenko, PhD Research Project: How the Bacteria Enterococci Have a Bad Effect on the	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.

University	Environment		2019 MUSC SC CHEC Research Colloquium		
Ms. Kimberly King Claflin University	Mentor: Bart Smits, PhD Research Project: Higher-Order Chromatin Organization of the Rat Tox3 Breast Cancer Susceptibility Locus	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Graduated from Claflin University in May 2019.
Ms. Ariel Moore Claflin University	Mentor: Ann-Marie Broome, PhD, MBA Research Project: The Effects of R5V-Resveratrol on Glioblastoma Cells	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Ta'Myiah Reed (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Marvella Ford, PhD Research Project: Design of a Patient Navigation Intervention to Enhance Receipt of Surgery in African American Adults with Early-Stage Lung Cancer	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2018 Annual Biomedical Research Conference for Minority Students (poster) 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.

Ms. Jamarni Robinson Claflin University	Mentor: Elizabeth Yeh, Ph.D. Research Project: Optimization of Non-Radioactive In Vitro Kinase Assays for the Protein Kinase Hunk	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Graduated from Claflin University in May 2019.
Ms. Arabia Satterwhite (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Victoria Findlay, PhD Research Project: The Role of Mir-510 in Breast Cancer Disparities	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Sara Wallam University of South Carolina	Mentor: Jennifer Dahne, PhD Research Project: Racial Disparities in Receipt of Brief Physician Advice for Smoking Cessation in South Carolina Primary Care Clinics	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	Taken the MCAT in lieu of the GRE	Graduated from the University of South Carolina in May 2019 with Bachelor's Degree in Biochemistry. Currently attending Medical School at Johns Hopkins University.

Ms. Tamara Washington University of South Carolina	Mentor: Willian Da Silveira, PhD Research Project: Prostate Transcriptome in African American Men compared with European-American Men Secondary Analysis	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium	N/A	Graduated from the University of South Carolina in May 2019 with a Bachelor's Degree in Public Health.

Year of Program Participation: 2019

❖ These are recent fellows who participated in the 2019 program. Therefore, it is too early to report additional accomplishments at this time. Many accomplishments are expected to occur during the course of the next few years following their participation.

Student Name	Summer Research Project	Funding Source	Publications, Presentations and Honors	GRE Status	Graduate School Admission
Ms. Christina Adams University of South Carolina- Beaufort	Mentor: Brandon Welch, PhD Research Project: Telecommunication Needs for Rural Communities	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina-Beaufort.
Ms. Mirakle Avery Claflin University	Mentor: Michael Ostrowki, PhD Research Project: mtp53/ Ets-2 in immune-suppressive microenvironment	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Danielle Beaufort (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Shikhar Mehrotra, PhD Research Project: Understanding the Role of JNK in Immuno-Metabolic Phenotype of T cells	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.

Ms. Makayla Cummings University of South Carolina	Mentors: Denise Carneiro-Pla, MD, FACS, & Mahsa Javid MD MA PhD FRCS Research Project: Hashimoto's Thyroiditis and Papillary Thyroid Carcinoma	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. India Eady Claflin University	Mentor: Danyelle Townsend, PhD Research Project: Heme-Oxygenase 1 levels in Lung Cancer Patients	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Antiqua Gathers South Carolina State University	Mentor: Marvella Ford, PhD Research Project: Assessing an Intervention to Increase Cervical Cancer Knowledge and HPV Vaccination Knowledge among Predominantly African American Communities in South Carolina	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Angel Gilmore Claflin University	Mentor: Ann-Marie Broome, PhD, MBA Research Project: Rapalogs Enhanced with Micelle Encapsulation and Targeting Capabilities to have Increased Efficacy and Specificity in Cancer Cells Without Eliminating a High Percentage of Normal Cells	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.

Ms. Briah Gordon Claflin University	Mentor: Paula Traktman, PhD Research Project: Identifying VRK1 interacting proteins using APEX technology	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Ashley Hill South Carolina State University	Mentor: Jorge Munera, PhD Research Project: Development of Tools Used to Examine BMP Signaling	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Reagan Hill Claflin University	Mentor: Erin McClure, PhD Research Project: Motivation for Tobacco Cessation in Adolescents	Department of Defense (HBCU)	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Abigail Jackson University of South Carolina	Mentor: Michael Cummings, PhD, MPH Research Project: Smokeless Tobacco Use and Cardiovascular Disease Prevalence: Findings from Population Assessment of Tobacco and Health (PATH) Study	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. Mikayla Johnson (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Alexander Alekseyenko, PhD Research Project: Analysis of Microbiome Data in Healthy Colon	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2019 MUSC SC CHEC Research	N/A	Still enrolled at South Carolina State University.

			Colloquium		
Ms. Yatia Lancaster Claflin University	Mentor: Patrick Woster, PhD Research Project: Polyamine Metabolism: Expression of SLC3A2	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.
Ms. Ta'Myiah Reed (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Gustavo Leone, PhD Research Project: Generation of a Genetically Engineered Mouse Pancreatic Cancer Model through Genotyping	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2018 Annual Biomedical Research Conference for Minority Students (poster) 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Bria Sanders South Carolina State University	Mentor: David Turner, PhD Research Project: Investigating the Role of RAGE in AGE-Mediated	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.

	Neoplastic Growth				
Ms. Arabia Satterwhite (Dual Year Participant 2018/2019) South Carolina State University	Mentor: Victoria Findlay, PhD Research Project: The Role of Mir-510 in Breast Cancer Disparities	NIH/NCI R25E	Publications: No publications to date Presentations: 2018 MUSC SC CHEC Research Colloquium 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at South Carolina State University.
Ms. Greta Tautkus University of South Carolina	Mentor: John Pearce, PhD Research Project: Establishing baseline asthma risk in the Charleston area	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at the University of South Carolina.
Ms. Khalin Taylor Claflin University	Mentor: Ann-Marie Broome, PhD, MBA Research Project: Nanoparticle Packaging of a BET Inhibitor for Improved Efficacy in Glioblastoma Cells	NIH/NCI R25E	Publications: No publications to date Presentations: 2019 MUSC SC CHEC Research Colloquium	N/A	Still enrolled at Claflin University.

Appendix J: 2016-2019 SC CHEC Mentor Program Evaluations

The SC CHEC Leadership Team created the evaluation instrument for the SC CHEC Mentors after the 2015 training program; therefore, there are no 2015 mentor evaluations to note.

SUMMARY RESULTS OF MENTOR EVALUATIONS 2016 (n=4)

Survey Item	N	%	N	%	N	%	N	%
1. How would you rate the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	3	75.0	1	25.0	0	0.0	0	0.0
2. How would you describe the quality of your experience as a participant in the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	2	50.0	2	50.0	0	0.0	0	0.0
3. Would you volunteer to serve as a SC CHEC Mentor again next year or in the future?	Yes		Possibly		Not Sure		No	
	2	50.0	1	25.0	0	0.0	1	25.0
4. Did the SC CHEC mentor orientation session help you prepare for your mentoring experience?	Yes		Somewhat		Not Sure		No	
	2	50.0	2	50.0	0	0.0	0	0.0
5. Would you have liked additional training for mentors?	Yes		Maybe		Probably Not		No	
	1	25.0	1	25.0	1	25.0	1	25.0
6. How clearly defined were your mentor responsibilities?	Very Clear		Moderately Clear		A Little Unclear		Very Unclear	
	3	75.0	0	0.0	1	25.0	0	0.0
7. The SC CHEC Program Coordinators were accessible and easy to talk to and seek advice from when necessary.	Always		Somewhat		Not Much		Never	
	3	75.0	1	25.0	0	0.0	0	0.0
8. How would you describe your relationship with your mentee?	Very Good		Good		Fair		Poor	
	3	75.0	1	25.0	0	0.0	0	0.0
9. Do you think that the time you spent with your mentee was sufficient?	Yes		Almost		Not Really		No	
	2	50.0	2	50.0	0	0.0	0	0.0
10. Do you think that the time you spent together was helpful for your mentee?	Yes		Somewhat		Not Really		No	
	3	75.0	1	25.0	0	0.0	0	0.0
11. Did you gain personally from this relationship?	Yes		Somewhat		Not Much		No	
	3	75.0	1	25.0	0	0.0	0	0.0
12. I would have preferred to meet less often with my mentee.	Yes		Sometimes		Rarely		No	
	0	0.0	0	0.0	1	25.0	3	75.0
13. I would have preferred to meet more often with my mentee.	Yes		Sometimes		Rarely		No	
	0	0.0	4	100.0	0	0.0	0	0.0

SUMMARY RESULTS OF MENTOR EVALUATIONS 2017 (n=5)

Survey Item	N	%	N	%	N	%	N	%
1. How would you rate the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	3	60.0	2	40.0	0	0.0	0	0.0
2. How would you describe the quality of your experience as a participant in the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	2	40.0	1	20.0	2	40.0	0	0.0
3. Would you volunteer to serve as a SC CHEC Mentor again next year or in the future?	Yes		Possibly		Not Sure		No	
	3	60.0	0	0.0	2	40.0	0	0.0
4. Did the SC CHEC mentor orientation session help you prepare for your mentoring experience?	Yes		Somewhat		Not Sure		No	
	2	40.0	3	60.0	0	0.0	0	0.0
5. Would you have liked additional training for mentors?	Yes		Maybe		Probably Not		No	
	1	20.0	0	0.0	1	20.0	3	60.0
6. How clearly defined were your mentor responsibilities?	Very Clear		Moderately Clear		A Little Unclear		Very Unclear	
	2	40.0	3	60.0	0	0.0	0	0.0
7. The SC CHEC Program staff were accessible and easy to talk to and seek advice from when necessary.	Always		Somewhat		Not Much		Never	
	3	60.0	2	40.0	0	0.0	0	0.0
8. How would you describe your relationship with your mentee?	Very Good		Good		Fair		Poor	
	2	40.0	2	40.0	1	20.0	0	0.0
9. Do you think that the time you spent with your mentee was sufficient?	Yes		Almost		Not Really		No	
	2	40.0	2	40.0	1	20.0	0	0.0
10. Do you think that the time you spent together was helpful for your mentee?	Yes		Somewhat		Not Really		No	
	2	40.0	3	60.0	0	0.0	0	0.0
11. Did you gain personally from this relationship?	Yes		Somewhat		Not Much		No	
	3	60.0	1	20.0	1	20.0	0	0.0
12. I would have preferred to meet less often with my mentee.	Yes		Sometimes		Rarely		No	
	0	0.0	1	20.0	0	0.0	3	60.0
13. I would have preferred to meet more often with my mentee.	Yes		Sometimes		Rarely		No	
	2	40.0	1	20.0	0	0.0	1	20.0

SUMMARY RESULTS OF MENTOR EVALUATIONS 2018 (n=2)

Survey Item	N	%	N	%	N	%	N	%
	Excellent		Very Good		Good		Poor	
1. How would you rate the SC CHEC Program?	0	0.0	1	50.0	1	50.0	0	0.0
	Excellent		Very Good		Good		Poor	
2. How would you describe the quality of your experience as a participant in the SC CHEC Program?	1	50.0	0	0.0	1	50.0	0	0.0
	Yes		Possibly		Not Sure		No	
3. Would you volunteer to serve as a SC CHEC Mentor again next year or in the future?	1	50.0	1	50.0	1	00.0	0	0.0
	Yes		Somewhat		Not Sure		No	
4. Did the SC CHEC mentor orientation session help you prepare for your mentoring experience?	0	0.0	2	100.0	0	0.0	0	0.0
	Yes		Maybe		Probably Not		No	
5. Would you have liked additional training for mentors?	1	50.0	0	0.0	1	50.0	0	0.0
	Very Clear		Moderately Clear		A Little Unclear		Very Unclear	
6. How clearly defined were your mentor responsibilities?	0	0.0	2	100.0	0	0.0	0	0.0
	Always		Somewhat		Not Much		Never	
7. The SC CHEC Program staff were accessible and easy to talk to and seek advice from when necessary.	1	50.0	1	50.0	0	0.0	0	0.0
	Very Good		Good		Fair		Poor	
8. How would you describe your relationship with your mentee?	2	100.0	0	0.0	0	0.0	0	0.0
	Yes		Almost		Not Really		No	
9. Do you think that the time you spent with your mentee was sufficient?	1	50.0	0	0.0	1	50.0	0	0.0
	Yes		Somewhat		Not Really		No	
10. Do you think that the time you spent together was helpful for your mentee?	2	100.0	0	0.0	0	0.0	0	0.0
	Yes		Somewhat		Not Much		No	
11. Did you gain personally from this relationship?	2	100.0	0	0.0	0	0.0	0	0.0
	Yes		Sometimes		Rarely		No	
12. I would have preferred to meet less often with my mentee.	0	0.0	0	0.0	1	50.0	1	50.0
	Yes		Sometimes		Rarely		No	
13. I would have preferred to meet more often with my mentee.	1	50.0	0	00.0	0	0.0	1	50.0

SUMMARY RESULTS OF MENTOR EVALUATIONS 2019 (n=3)

Survey Item	N	%	N	%	N	%	N	%
1. How would you rate the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	3	100.0	0	0.0	0	0.0	0	0.0
2. How would you describe the quality of your experience as a participant in the SC CHEC Program?	Excellent		Very Good		Good		Poor	
	2	67.0	1	33.0	0	0.0	0	0.0
3. Would you volunteer to serve as a SC CHEC Mentor again next year or in the future?	Yes		Possibly		Not Sure		No	
	3	100.0	0	0.0	1	00.0	0	0.0
4. Did the SC CHEC mentor orientation session help you prepare for your mentoring experience?	Yes		Somewhat		Not Sure		No	
	2	67.0	1	33.0	0	0.0	0	0.0
5. Would you have liked additional training for mentors?	Yes		Maybe		Probably Not		No	
	0	0.0	0	0.0	1	33.0	2	67.0
6. How clearly defined were your mentor responsibilities?	Very Clear		Moderately Clear		A Little Unclear		Very Unclear	
	3	100.0	0	0.0	0	0.0	0	0.0
7. The SC CHEC Program staff were accessible and easy to talk to and seek advice from when necessary.	Always		Somewhat		Not Much		Never	
	3	100.0	0	0.0	0	0.0	0	0.0
8. How would you describe your relationship with your mentee?	Very Good		Good		Fair		Poor	
	3	100.0	0	0.0	0	0.0	0	0.0
9. Do you think that the time you spent with your mentee was sufficient?	Yes		Almost		Not Really		No	
	3	100.0	0	0.0	0	00.0	0	0.0
10. Do you think that the time you spent together was helpful for your mentee?	Yes		Somewhat		Not Really		No	
	3	100.0	0	0.0	0	0.0	0	0.0
11. Did you gain personally from this relationship?	Yes		Somewhat		Not Much		No	
	3	100.0	0	0.0	0	0.0	0	0.0
12. I would have preferred to meet less often with my mentee.	Yes		Sometimes		Rarely		No	
	0	0.0	0	0.0	0	0.0	3	100.0
13. I would have preferred to meet more often with my mentee.	Yes		Sometimes		Rarely		No	
	2	67.0	0	00.0	0	0.0	1	33.0