

**GEORGIA RACE TO THE TOP
INNOVATION FUND
APPLICATION FACE SHEET**

SECTION 1: APPLICANT AGENCY

Applicant Agency (Legal Name): Morehouse College

Legal Mailing Address: 830 Westview Drive

City: Atlanta County: Fulton State: GA Zip: 30314

Federal Employer I.D. #: 1-580566205-A1 DUNS #: 075861773

Congressional District #: GA-005

Executive Officer Name: Sheila Jacobs Title: VP Business & Finance

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SECTION 2: PARTNERSHIP LEAD CONTACT

Contact Name: Lycurgus Muldrow Title: Director Sponsored Research and Integrated Activities

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SECTION 3: FISCAL CONTACT

Contact Name: Denise Willis Title: Grant Account Manager

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SECTION 4: PROJECT INFORMATION

Project Name: Student Applied Learning, New Teacher Induction and Staff Leadership Program

Partner Names: Clayton County Public Schools

Priorit(ies) Addressed: Priorities 1 and 2

Grant Amount Requested: **\$1,042,095**

SECTION 5: PARTICIPANT DATA:

Approximate number of students served: 13,400 students over the life of the program

Population of focus (i.e. age, gender, race): male and females, all races, high school students 14-18

SECTION 6: SERVICE DELIVERY AREA

Primary county or counties to be served: Clayton County

List other counties to be served (if any): None

Congressional District(s) to be served: GA-005

SECTION 7: PROGRAM ACTIVITIES

Six week teacher training program and three week student summer program

SECTION 8: APPLICANT AGENCY FISCAL INFORMATION

1. Month of Fiscal Year End: December
2. Attach to the application, the applicant agency's financial audit.
3. Is applicant agency delinquent on any federal debt? NO YES If yes, attach a detailed explanation.
4. Did applicant agency receive 80 percent or more of its annual gross revenue in federal awards in its preceding fiscal year; and \$25,000,000 or more in annual gross revenue from federal awards and in so doing is required to comply with "Federal Funding Accountability and Transparency Act"? NO YES If yes, attach names and total compensation of the five most highly compensated officers of the grantee.

SECTION 9: AUTHORIZING SIGNATURES

I, the undersigned, an authorized representative of the applicant, have read, understand, and agree to all relative conditions specified in the Race to the Top Innovation Fund Request for Proposals and having read all attachments thereto do submit this application on behalf of the applicant agency. If awarded a grant to implement the provision herein, I do certify that all applicable federal and state laws, rules, and regulations thereto will be followed.

APPLICANT AGENCY:

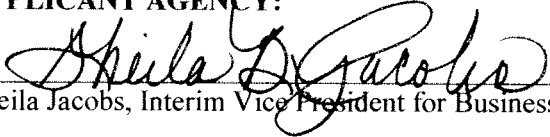
 11-1-11
Sheila Jacobs, Interim Vice President for Business and Finance/CFO Date

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Morehouse College - President, Robert Franklin, Ph.D.

Morehouse College - Division of Science and Mathematics, Dean, John K. Haynes, Ph.D.

Clayton County Public Schools - Chief Academic Officer, Diana Carry, Ed.D.

Georgia Race to the Top Innovation Fund: An Enterprise Grant Proposal

Student Applied Learning, New Teacher Induction and Staff Leadership Program

Executive Summary

A partnership between Morehouse College and Clayton County Public School (CCPS) has been formed with a mission to retain new teachers, train new leaders, and achieve positive student outcomes through innovative applied learning opportunities in science, technology, engineering and mathematics (STEM). The vision is to prepare all students to compete successfully in a global economy, by embracing scholarship, leadership, research and inquiry. This proposed project titled “Student Applied Learning, New Teacher Induction and Staff Leadership Program” is highly innovative, high-impact, and serves the low-achieving population within the CCPS system. The two goals for this project are to: 1) implement a high school student summer and academic year program that facilitates the outcome of students developing higher order thinking skills through applied learning opportunities; and 2) implement a comprehensive induction program that empowers new high school science teachers and leaders to deliver more complex instruction, motivate students and teachers, incorporate high expectations and make better use of available instructional resources. The two goals of this Enterprise Grant project completely fulfill the objectives outlined in “Priority 1” and “Priority 2” of the Request for Proposal Announcement. In addition this project will focus on the high-need STEM disciplines of biology and physical science (including chemistry and physics) with special emphasis on sustainable energy and environmental sciences. There are three major program activities of this Georgia Race to the Top Innovation Fund project which includes a: 1) High School Student Program; 2) a New High School Teacher Induction Program; and 3) a New Leader Training Program which is an integral part of the teacher induction program. This proposed program is highly unique in that all three components of this program work together seamlessly to accomplish stated goals. These programmatic activities have been modeled after proven and published best practices, as well as educational approaches and programmatic designs that have been successfully implemented at Morehouse College, with positive outcomes. During the proposed three years of funding, this project will serve 21 new high school teachers who will directly impact 7,992 students in which approximately 6,394 of these are economically disadvantaged. Through the training of 21 new leaders, this project will indirectly impact all 13,400 Clayton County high school students. In addition, this project has been designed to maintain positive outcomes beyond the initial three years of funding. To facilitate this long range sustainability, the program training activities are highly innovative, the management plan has been well designed, and the evaluation strategy, formative and summative, is comprehensive and long range.

Section 1: Partnership Overview

Morehouse College's Expertise, Experience and Mission:

Founded in 1867, Morehouse College is the largest independent, fully accredited, liberal arts college for men in the United States. Morehouse College has awarded more baccalaureate degrees to African-American men than any other institution in the nation, and is ranked number five in the nation for graduating African American students who go on to obtain a Ph.D. in science, technology, engineering, and mathematics (STEM) (1). In addition, Morehouse College has been listed in the *Wall Street Journal* as one of the top colleges in the nation, for sending students to the most elite professional and graduate schools; and has also been ranked four times in *Black Enterprise Magazine*, as the number one college in the nation for educating African Americans. In 2010 and 2011 Morehouse College had the distinction of being ranked as the number one and then number two liberal arts college in the United States by the *Washington Monthly* (2).

The vision of Morehouse, under the leadership of Dr. Robert M. Franklin, Jr., President of Morehouse College is that “Morehouse College is where Renaissance men with a social conscience are made.” This vision embraces global student scholarship and leadership through research and inquiry. This belief epitomizes the mission of Morehouse College, which is to develop men with disciplined minds who will lead lives of leadership and service (www.morehouse.edu/about/mission). To this end Morehouse College offers an interdisciplinary Leadership Studies Minor. In addition this Leadership Studies Minor is supported by a staffed Leadership Center at Morehouse College. This Center and minor is a national model for academic leadership studies and offers students rich and diverse experiences

Clayton County's Mission, Expertise and Experience:

The mission of Clayton County Public Schools (CCPS) is to be accountable for providing a globally competitive education that empowers students to achieve academic and personal goals, and to become productive, responsible citizens. The vision of CCPS is to be a district of excellence preparing ALL students to successfully compete in a global economy.

Partnership Collective Vision and Mission:

The partnership of Morehouse College and CCPS embodies the mission and vision of both institutions, while embracing the goals of the Georgia Race to the Top Innovation Fund. The mission statement of this partnership is to retain new teachers, create leaders and deliver innovative applied learning opportunities to develop empowered students with disciplined minds, who will achieve academic and career goals, especially in STEM. The vision is to prepare ALL students to compete successfully in a global economy, by embracing scholarship, leadership, research and inquiry.

Performance Record in Implementing Large, Complex Projects:

The Program Director (PD) of this project, Dr. Lycurgus L. Muldrow, and Morehouse College have an extensive track record of implementing large, complex, and rapidly growing projects. Specifically, Dr. Muldrow has over twenty years of expertise supervising dozens of employees to maximize productivity in scientific, educational, and not-profit environments. Dr. Muldrow's current title at Morehouse College is "Director of Sponsored Research and Integrative Activities." His job responsibilities include developing, implementing, and supervising large complex projects and activities, as well as the promotion and integration of the Morehouse-Wide Initiative for Sustainable Energy (M-WISE). Dr. Muldrow currently has a highly trained staff of four full-time employees, five part-time consultants, as well as over 20 individuals that report to him during the summer months. Within the last five years he has implemented over five separate multidimensional programs, collaborated with over 20 institutions around the nation, and currently supervises a budget of over one million dollars per year.

Dr. Muldrow's performance record in implementing large, complex projects is also reflected in his current responsibilities. Currently he is supervising educational programs such as 1) the National Science Foundation (NSF) funded Historically Black College and University Undergraduate Program (HBCU-UP ACE 1043330), which is supplementing M-WISE and includes faculty and student development, curriculum development and research; 2) the NSF STEM Talent Expansion Program (STEP-0756918), which has developed a comprehensive support system for Morehouse STEM majors, as well as developed and institutionalized successful courses in Scientific Literacy; 3) an NSF Education Research project (1036269) which is examining the level of scientific literacy of pre- and early-freshmen STEM majors in 15 institutions of higher education across the Nation; 4) a Department of Energy (DOE NNSA DE-FG52-07N28424) grant that supports undergraduate students in summer research opportunities in different DOE laboratories around the country; 5) a six-week long "Pre-Freshman Bridge Summer Science Program" for incoming freshmen STEM majors at Morehouse College (NSF 1043330, 0934142 and DOE); a funded high school "Teacher Training Program" with a summer and academic year component (funded by NSF PREM 0934142); as well as 6) other smaller programmatic activities.

Morehouse College's performance record in implementing large, complex and rapidly growing projects is extensive, especially as it relates to summer programs. Morehouse has an institutionalized Summer Academy (3) comprised of twenty-one programs, of which the majority are designed for science and mathematics, research and/or general education. Approximately 1,600 high school, pre-college, and college students are enrolled in the Summer Academy, with the majority of these participants being high school students (both male and female).

Experience Developing/Implementing Education Programs with Positive Outcomes:

Dr. Muldrow has experience in developing and implementing numerous educational programs with positive student outcomes. He served as the Program Director of an HBCU-UP grant (0506145) funded between 2005-2010, titled "Curriculum Reform and Laboratory Enhancement." This \$2.5 million program had numerous subcomponents. One initiative of this grant was the development and implementation of a highly distinctive and pioneering Pre-Freshmen Bridge Summer Science Program. This new summer program incorporated a unique combination of proven applied learning components that enhanced success and interest in the pursuit of careers in science and research. Positive outcomes from this summer program, that focused on applied learning, included giving students practice in the scientific process, creative thinking, inquiry based skills, problem solving skills, team work and self-management as well as expanding the students level of scientific literacy. Quantitative data clearly documented an enhanced academic performance and retention among summer participants in science "gatekeeper" courses, as compared to the general population of students. Assessments given at the end of the summer program indicated that students ranked their summer experience as being moderate to high in all categories. Further, qualitative feedback from students in the summer program upon soliciting their descriptions of the "strengths and benefits associated with their experience" was consistently favorable. The externally contracted evaluator notes the following statements as reflective of the overall trend: "I have actually learned what a research scientist does...I have found a new understanding of how important research is..." "The program has opened my eyes to the world of science greatly." "I was quite unsure how scientific research really works. Now I have a clear understanding." "Overall I am stimulated by the challenge..." In essence the assessment suggests that the Pre-Freshman Bridge Summer program is expanding the students' passion for the sciences, as well as success in gatekeeper courses and career possibilities.

Data on this five year old Pre-Freshman Bridge Summer Program has been presented at three national conferences, and a publication titled *Scientific Literacy: a Bridge to Freshmen Success in Undergraduate Science and Mathematics* will be submitted for publication in November of 2011 (4). This successful summer program has also been broadly replicated. A NSF Partners in Research and Education in Materials (PREM) grant (0934142) has been funded to support this program for students at Spelman College, Clark Atlanta University and Morehouse. A DOE NNSA (DE-FG52-07N28424) grant has also been funded that will continue to support the same summer program with a focus on recruiting physics majors. Also, another HBCU-UP (1043330) grant was recently funded to support this summer program for five more years. In the summer of 2011, thirty-nine pre-freshmen students participated in this program.

Another positive outcome of the HBCU-UP summer program has been the institutionalization of the scientific literacy component of this summer program. A Scientific Literacy class for at-risk STEM freshmen

majors at Morehouse was added to the academic year curriculum. The implementation of this course was supported by an NSF STEM Talent Expansion Program (STEP-0756918) grant funded in 2008. It should also be noted that at the annual NSF sponsored STEP Conference in Washington DC, in March of 2010, Dr. Muldrow and this grant was one of three STEP programs (out of 99) that were publically honored and given a special recognition STEP award. This acknowledgement was due to the extremely innovative Scientific Literacy course.

Upon implementing the Scientific Literacy course in 2009, preliminary positive outcomes as it relates to retention of STEM majors has been obtained. By the end of the first semester of the sophomore year the retention rate within the institution and in the STEM major for 34 at-risk students that took the Scientific Literacy course was 85%, as compared to a control group with a retention rate of 58%.

Another initiative with positive outcomes in the above mentioned HBCU-UP grant (0506145) was the funding of the Peer Led Team Learning (PLTL) workshops which provides active learning experiences. In part, as a result of the initial funding in the HBCU-UP grant that Dr. Muldrow directed, and under the direction of the Associate Dean, Dr. Jann Adams, Morehouse positioned itself as national leader in the rapidly growing PLTL initiative. Morehouse sponsored a national PLTL conference in 2009 (www.morehouseptl.org); and hosted the national PLTL organization's (www.ptl.org) conference in 2010.

Another recent model program that demonstrates Dr. Muldrow has experience in developing and implementing educational programs for high school teachers with positive outcomes is the recently funded summer and academic year high school "Teacher Training Program." This program has just completed its second year and is funded by NSF Partnerships in Research and Education in Materials (PREM 0934142). Each summer, four high school teachers are accepted into the program and participate as teaching assistants in the Pre-Freshman Bridge Summer Science Program. Outcomes of the Teacher Training Program include: teacher exposure to scientific literacy teaching methods, guided inquiry laboratories, the implementation of applied learning experiences, and innovative mentoring activities.

After completion of the summer program, teachers are provided support for one academic year to implement educational skills learned. Assessments coupled with classroom visitations lead to the determination of positive outcomes in that all four teachers have implemented components learned. In addition to the above, a PREM academic year Teacher Training Program supports professional development of teachers who did not attend the summer program. Outcomes from last years' activity resulted in the implementation of new guided inquiry laboratories by three high school teachers who did not participate in the summer activity.

Section 2: Need for Project

Target Population and Geographic Location:

The target population for this Georgia Race to the Top Innovation Fund project is the Clayton

County Public School (CCPS) system. During the last quarter-century, Clayton County has seen significant change in the racial composition of its population. In 1980, Clayton County's population was 150,357 with 91% white and 9% minority; while in 2006 the population almost doubled (271,240) with approximately 20% white and 80% minority. Many of these minority groups live in Clayton County's housing projects with a resulting high crime rate.

The CCPS system is the fifth largest in Georgia, and the county has a large percentage of economically disadvantaged students. The per capita income for the county in 2006 was \$18,079. All Clayton County high schools received Title I designation from the Department of Education which stipulates that at least 80% of the students received free or reduced lunch.

On August 28, 2008, the District lost its accreditation, making this 51,000 student school system the first in the nation to lose accreditation since 1969. On May 13, 2011, CCPS regained accreditation from the Southern Association of Colleges and Schools, and has endeavored to build a reputation for providing a quality education.

During the 2011-2012 academic year Clayton County high school students will no longer be required to pass the Georgia High School Graduation Test (GHS GT). Instead they will be assessed using the End of Course Test (EOCT) which will be calculated as a part of their final grade in the subject matter tested. This change will significantly impact their ability to qualify for graduation. In 2008-2009 only about half of Clayton County high school students received passing scores in biology and physical science (biology 40% and 53% physical science); whereas, in that same year 80% of high school students in Clayton County received a passing score on the GHS GT. This disparity forecasts a significant need to ensure that the concepts in physical and biological sciences are grounded and reinforced not only for the students, but also for new faculty delivering the instruction.

Along with the above, the biology and possibly the physical science sections of the EOCT will be used to determine adequate yearly performance (AYP) for the high schools. Because of this, CCPS places a heightened importance on training and retaining talented science teachers that are prepared to augment their curricula to meet the demands of the AYP requirements, while making their students highly desired in the State of Georgia. CCPS understands that in order to increase their students' success and competitive edge as they seek to enter institutions of higher learning, they must be fully prepared to meet the rigors of the continuous advancements in the sciences.

One of the ways that CCPS wishes to enhance self-management skills (i.e. problem solving and communication skills) and increase the opportunities to apply knowledge to a real-world setting is to have more students present high-quality research projects in local and regional science fairs. The partnership between CCPS and Morehouse will provide an opportunity for this desire to be fulfilled. In summary the need to form the "Morehouse College and CCPS Partnership" is extremely high.

Section 3: Quality of Project Design

Number of Schools, Students, New Teachers and New Administrators Served:

This project will serve 4,752 students, 12 newly hired teachers and 11 high schools. Each summer 44 Clayton County high school students will participate in a five-week long summer program on Morehouse's campus; over the three year grant, this equals 132 students. In addition to these students, 100 additional Clayton County high school students will participate in the Innovation Expo at Morehouse College; equaling 300 students in three years. Each summer 7 newly hired high school teachers will participate in the High School Teacher Program; thus totaling 21 teachers over three years. These teachers will be implementing applied learning techniques in their class rooms; consequently, with an average class room size, one teacher will impact 180 students per year, and 7 teachers would impact 1,260 students per year. Based on this calculation, and adding 7 teachers per year, then 7,560 students will participate in applied learning activities within the time frame of this three year grant (1,260/year one + 2,520/year two + 3,780/year three = 7,560). The total number of students served equals 7,992 (7,560 + 132 + 300).

There are 9 high schools and two high school program centers in Clayton County with approximately 100 science (biology, chemistry, physical science and physics) teachers. Approximately 12% of the teachers have been newly hired within the last three years, or will be hired within the next three years.

All Clayton County high schools have received Title I designation from the Department of Education which stipulates that at least 80% of the students received free or reduced lunch. The number of economically disadvantaged students the partnership expects to affect is estimated based on this percentage. Consequently at least 6,394 economically disadvantaged students will be served (80% x 7,992 = 6,394).

Exceptional Approach for High Needs in Biology and Physical Science:

The proposed Race to the Top Innovation project herein is highly innovative, high-impact, and serves a low-achieving population. This project meets the objectives outlined in "Priority 1" and "Priority 2 of the Request for Proposal Announcement. The first goal of this proposed partnership between Morehouse and CCPS is embodied in the statement of Priority 1 which is "to achieve positive student outcomes through innovative applied learning opportunities and experiences." The second goal of this project is Priority 2 which provides "new opportunities for new teachers and school leaders to participate in comprehensive induction programs in an effort to improve teacher and leader quality."

Priority 1 states that the applied learning experiences should expose students to: 1) heightened academic rigor, such as challenging classroom curriculum and increased access to accelerated coursework

based on individual need; 2) enhanced self-management skills such as problem solving skills and communication skills and techniques; and 3) increase opportunities to apply new knowledge and skills within a real-world setting. The programmatic activities of this project address in great detail all three of these opportunities. This program also represents an exceptionally innovative approach in that it aims to create an increased level of scientific literacy through “hands on” learning, which contextualizes biology and physical science in a way which empowers and motivates students to learn science. It needs to be pointed out that incoming college freshmen (5, 6, 7) and high school students, are generally not scientifically literate.

Sundberg reports that when fewer specifics (i.e. the big picture) are taught, students develop more sophisticated conceptual understanding and a more positive regard for science. According to Rissing (8), scientific literacy happens when students think for themselves. This proposed Race to the Top project will provide applied learning experiences to give students the opportunity to think for themselves and see the big picture. During the summer program a Scientific Literacy course will be taught using highly interactive, web-based instructional modules (Math Bench), Investigative Case-Based Learning and highly unique Research Simulation Case Studies that relate to real world situations. These web-based modules and research simulation case studies presents a challenging curriculum while simultaneously providing accelerated course work based on individual need. The interactive web-based modules and investigative/research case studies are specifically designed to enhance self-management problem solving skills while concurrently learning how to apply knowledge to real-world settings. In addition to these modules and case studies, students will be exposed to guided inquiry research laboratories on a college campus where they will conduct original research projects that will be presented at science fairs. These research projects and subsequent presentations will also enhance self-management skills such as problem solving and communication techniques in a real-world setting. The main activities in this project have not been adapted in Clayton County and these activities are uniquely designed to ultimately improve student competence in biology and physical science and motivate interest in STEM.

Priority 2 aims to achieve positive outcomes through a highly innovative new teacher and new leader induction programs. This program is innovative because it is interwoven in the student applied learning program in a way that supports a holistic approach. The new teachers will be given an opportunity, in a student summer program, to prepare and practice delivering more complex and effective instruction and using instructional resources, while simultaneously working with highly effective teachers and leaders. The new teachers will also participate in leadership workshops along with new high school leaders; thereby, learning how to set and implement high expectations while successfully motivating students. Placing new teachers in the

leadership workshop will also provide a context for the new leaders as they develop ethical leadership skills (9).

Evidence-Based Findings for Project Activities:

The Georgia Race to the Top Innovation Fund proposed herein has been modeled after proven and published best practices, as well as educational approaches and programmatic designs that have been successfully implemented at Morehouse College and other institutions with positive outcomes. This has been explicitly documented in the following sections: Performance Record in Implementing Large, Complex Project; Experience Developing/Implementing Education Programs with Positive Outcomes; and Exceptional Approach for High Need Students. In addition to the above the significant effect on improving student outcomes is documented below by providing a short description and review of the literature for each major activity.

Scientific Literacy: Studies conducted at Morehouse have demonstrated that an enhanced level of scientific literacy will expand the students' passion for the sciences, as well as success in science courses and STEM career possibilities (see section on "Experience Developing/ Implementing Education Programs with Positive Outcomes"). According to the United States National Center for Education Statistics, scientific literacy is defined, in part, as the knowledge and understanding of scientific concepts and processes required for personal decision making and participation in economic productivity. This definition of scientific literacy facilitates the accomplishment of this projects vision which is to "prepare ALL students to compete successfully in a global economy." It also is in alignment with RT3 strategy for the state of Georgia.

The definition of scientific literacy also includes specific types of abilities or competencies as defined by the National Science Education Standards (10). For example, the ability to: ask, find, or determine answers to questions; describe, explain, and predict natural phenomena; read with understanding articles about science in the popular press; and express positions that are scientifically and technologically informed (10). This course will enhance these skills in the CCPS high school students by using the interactive MathBench web-based instructional modules, investigative case-based learning and research simulation case studies (see below for details).

The scientific literacy course that will be taught in the summer program is also designed to develop a level of STEM self-efficacy and higher order thinking skills. The course accomplishes this by: a) giving a series of lectures on the "Nature of the Scientific Discovery Process" (developed and taught by Dr. Lycurgus Muldrow); b) exposing participants to dynamic research seminars presented by scientists, faculty and upper level undergraduate students; c) conducting lectures on careers in science; d) presenting a transformative workshop titled "Scientist Identity"; and f) promoting academic skill building.

MathBench: A series of interactive, web-based instructional modules called MathBench (mathbench.umd.edu/) will be used to deliver innovative, applied learning opportunities to the high school students. The overarching goal of the MathBench modules is to integrate quantitative approaches more deeply into the science curriculum. These modules use humor, references to popular culture and interactive elements to engage students, but they also build upon the students' intuitive understanding to help them explore scientific concepts using mathematical approaches. The majority of the 37 interactive MathBench Modules are geared toward introductory college level courses and have been used for AP level high school courses; thus, making them appropriate for CCPS high school students. Examples of MathBench modules that will be used include: Basic Lab Techniques; A Graphing Primer (learn how to graph); Tragedy of the Commons (climate change); and more. The MathBench modules are grounded in pedagogical research (11, 12) and fully leverage the capabilities of modern instructional technology. Assessment data indicate that students using MathBench have a greater appreciation for the importance of mathematics in modern biology and show gains in quantitative proficiency that are independent of previous and current math coursework (12). Dr. Muldrow has participated in extensive MathBench workshops presented by the developers of these modules, and is also part of the alliance that is disseminating these highly innovative applied learning modules.

Investigative Case-Based Learning: The inquiry-based pedagogy of Investigative Case-Based Learning as well as Problem-Based Learning (PBL) has been specifically selected because these approaches have been shown to enhance conceptual understanding and increase skills in problem solving, critical thinking, communication, and self-assessment while enhancing retention of information (13, 14, 15, 16, 17, 18). In a meta-analysis of 40 studies, Gijbels et al. (19) found PBL and non-PBL groups performed equally on assessments of content knowledge, but that PBL students excelled in higher level questioning related to predictions, solutions, and applications of information. These pedagogies are admirably suited to creating learning environments that: 1) challenge misconceptions and preconceptions; 2) support the development of conceptual frameworks so that students can translate learning to new situations; and 3) promote metacognition.

Inquiry-based active learning strategies, such as Investigative Case-Based Learning and PBL, have been shown to improve student performance and to strengthen science process skills in K-12 and undergraduate classes (21, 22, 23, 24, 25). An inquiry based active learning 16 hour workshop will be taught to the new teachers by staff from Emory College Center for Science Education. The Emory College Center has been leading these workshops for professional development of K-12 teachers since 2000. This workshop will demonstrate strategies, practice skills, and identify resources to transform classrooms from lecture-based, teacher-centered spaces into student-centered, inquiry-based environments that connect students to real-world issues and introduce lifelong learning skills. New

teachers will identify the best practices and discover a repository of over 250 lessons (CASES Online) developed by teachers that meet the State's standards. The new teachers will then be provided an opportunity to teach these skills in the High School Student Program during the summer.

Research Simulation Case Studies: Several unique research simulation case studies have been developed and are being studied at Morehouse by Dr. Muldrow, through two NSF funding sources (0756918 and 1036269). The stories told by these research simulation case studies are designed to have the student engage in the case study as a researcher. Students are told in the beginning of the case study that they are scientist and they will be designing experimental protocols and solving research problems. These research simulation case studies have been successfully used in a pre-freshmen summer program and can be used at the high school level. Preliminary assessment gathered through student questionnaires on these research simulation case studies indicates that they are more effective than regular subject based case studies at enhancing the students understanding of scientific research and the interdisciplinary nature of science.

Academic Skill Building: Academic skill building to promote self-management skills is the last component in the Scientific Literacy course. Specifically, high school students (as well as new teachers) will learn the "Guaranteed 4.0™" learning system which teaches time management, stress management, study skills and bullet-point-note-taking. The Guaranteed 4.0™ learning system is a nationally recognized tool for increasing student success (26). Students and new teachers will also participate in the Birkman Assessment behavioral tool that points out to the students their personal and professional interests and strengths (27). Clayton County high schools are equipped with instructional technology tools such as immediate response systems (i.e.clickers); however, this technology has been underutilized by teachers. Instructional technology tools will be an integral part of the summer experience; thereby, empowering the new teachers to better use these available instructional resources and enhancing the students' learning curve.

Guided Inquiry Research Laboratories and Research Competitions: A study conducted by Walters titled "Extending the Reach of a High School Academic Competition to College, Careers, and a Lifelong Commitment to Science" (28) suggests that STEM competitions provide support for moving and motivating high school students into and through the STEM career pipeline. Results indicate that co-curricular and extra-curricular science activities, such as academic competitions, may in fact be more important than enhancements to or participation in secondary science classes as a recruitment factor for STEM. Based on this and other data the a major program activity of this Georgia Race to the Top Innovation project is the use of guided inquiry research laboratories followed by students presenting their original research at high school science fairs, as well as a Summer Program Research Competition and the "the annual Morehouse College Innovation Expo."

In the guided inquiry research laboratories students solve a research problem in which the laboratory instructor simply guides the students through the process. In general, guided inquiry laboratories allow students to develop hypotheses, experimental protocols, and then perform experiments to test their hypotheses. These laboratories are designed to engage students in real-world issues, make students active learners, improve research laboratory skills, foster team work, encourage student-faculty contact and integrate interdisciplinary skills (29). The model guided inquiry research laboratories that participants will conduct will be in the area of sustainable energy (i.e. chemistry and physical science) using the GreenTech™ Energy Efficiency and Renewable Energy Training Lab kits (www.____), and environmental sciences (biology) using the bean beetle (www.beanbeetles.org). The highly acclaimed, innovative approach to teaching guided inquiry laboratories using the bean beetle was developed by Dr. Lawrence S. Blumer (Morehouse College) and Dr. Christopher W. Beck (Emory University). These guided inquiry laboratory series in biology were developed and are being nationally disseminated by funding from two NSF grants. The bean beetle and GreenTech guided inquiry laboratories have been taught to pre-freshmen at Morehouse and are appropriate for the high school students.

Leadership Training: Dr. Walter Earl Fluker (former Director of the Morehouse College Leadership Center) and staff will conduct a leadership workshop for CCPS leaders, mentor teachers and new teachers titled “At the Intersection Where Worlds Collide: Ethical Leadership Among Educational Professionals.” This workshop was taught to the superintendents in the state of Georgia through the Superintendent Professional Development Program of the Georgia School Superintendents Association in 2009, 2010 and 2011. This workshop and follow up exercises will be modified to facilitate leadership skills for Clayton County high school principals, assistant principals, science department chairs, teacher mentors and new teachers. In addition a comprehensive workbook will be developed for the unique skills required by this cohort. This workshop will engage participants in critical thinking, reflective discourse and story-telling which are primary methods of the process. It should be noted that leadership training of administrators is most valuable when teachers are present; consequently, the new teachers and teacher mentors will also be empowered with ethical leadership skills. Dr. Fluker has developed this model system for teaching leadership (9) and it has been successfully applied in civic, corporate and educational settings for more than a decade.

Scope of Work

The two goals for this project are to: 1) implement a high school student summer and academic year program that facilitates the outcome of students developing higher order thinking skills through applied learning opportunities; and 2) implement a comprehensive induction program that empowers new high school science teachers and leaders to deliver more complex instruction, motivate students and teachers, incorporate high expectations and make better use of available instructional resources.

The STEM disciplines that this project will focus on include biology and physical science (including chemistry and physics) with special emphasis on sustainable energy and environmental sciences. There are three major program activities of this Georgia Race to the Top Innovation project which includes a: 1) High School Student Program; 2) a New High School Teacher Induction Program; and 3) a New Leader Training Program. This proposed program is highly unique in that all three components of this program work seamlessly together to fulfill Priority 1 and Priority 2.

High School Student Program: The purpose of the High School Student Program is two-fold. First, it will give a select number of Clayton County high school students summer science enrichment on a college campus. Secondly, it will provide an essential training component for the new teacher induction program in which the new teachers will master the educational and pedagogical skills learned. The new teachers will be involved in teaching the material that they have recently learned to the high school students. The High School Student Program has two distinct subprograms, the Research Program and the Scholars Research Program. The programmatic activities and elements of the High School Student Program are detailed below.

The Research Program is a five-week summer experience on Morehouse College's campus in which 40 Clayton County high school juniors and seniors will be bused to Morehouse daily. These students will receive a stipend of \$300 for the summer and be given free lunch in the colleges' cafeteria. Each morning from 9:00am to 12:00noon the students will participate in a Scientific Literacy class consisting of web-based interactive instructional modules, investigative case-based learning, research simulation case studies, as well as exciting research seminars by faculty and undergraduate students, and interactive lectures on the discovery process, careers in science, and personal and professional development. In the afternoons from 1:00pm to 5:00pm these students will be divided into two guided inquiry research laboratories (sustainable energy and environmental biology) and given the basic skills and tools to come up with an original research project. Upon completing the research project at the end of the summer, the students will develop a professionally printed poster, and present their research during the annual Summer Program Research Competition along with 45 other pre-freshmen and 10 undergraduate students that were enrolled in another summer program at Morehouse College. During the academic year these students will also present their research in the Clayton County science fairs and the annual Innovation Expo at Morehouse College. The Innovation Expo is a 22 year old science conference featuring a fifty-plus page program booklet. The Expo includes a banquet, over 70 undergraduate research presentations and posters, a research competition, and a recruitment fair with usually over 25 colleges and universities participating, as well as nationally recognized guest speakers presenting scientific seminars, entrepreneurship presentations and workshops on topics such as careers in science.

In the Scholars Research Program four talented Clayton County high school rising seniors will also participate in the five-week long summer program; however, these four students will be given free room and board and live on Morehouse's campus during the summer. These four students will be housed along with students in another Pre-Freshman Bridge Summer Program and given appropriate 24 hour supervision by dormitory counselors (at no extra cost to this RT3 project). These students will also participate in the evening and weekend, organized programs of the Morehouse Summer Academy. Students in this Scholars Research Program will participate in the morning Scientific Literacy course but not the group guided inquiry research laboratories. Instead these students will conduct original research by being placed in a sustainable energy research laboratory or weatherization laboratory and mentored one-on-one by a research faculty member at Morehouse College.

The High School Student Program for Clayton County will target specific high schools each year and the criteria for student selection will include: the student's expressed interest in STEM via an online application; the student's academic standing; and recommendation from high school science teachers. The Research Scholars Program is more competitive and has the same requirements as above except the rising senior must have taken at least one Advanced Placement (AP) science course, have at least a 3.5 high school GPA, and write an essay on their interest in conducting a scientific research project. Upon successful completion of the summer program and fulfillment of other SAT criteria, the male students that participated in the Research Scholars Program will be honored during the banquet of the Innovation Expo by offering them a full tuition scholarship if they chose to attend Morehouse College.

New High School Teacher Induction Program: This comprehensive program consists of a summer and academic year component, and is designed to increase teacher retention, improve teacher quality, and ultimately improve student learning. Clayton County, in any given year, has approximately 20 new science teachers that have been employed for less than three years. Seven new high school teachers will be recruited to participate in the new teacher induction program per year; thus, involving 21 new teachers during this three year grant. The new teachers will be selected by Clayton County at the district office level, in consultation with the principals of the high schools. Three high schools of the nine CCPS high schools and one program center will be targeted each year for teacher selection. The new teachers will be paid \$5,000 to participate in a six-week summer program, and \$1,000 to participate in the academic year program which consists of monthly meetings and ongoing meetings with their high school teacher mentors.

The key programmatic activities of this New High School Teacher Induction Program are outlined as follow. The new teachers will first participate in a six week long (eight hours/day, five days/week) summer induction program. The six week program will be divided into three distinct segments. The first segment, lasting one week, will consist of educational and pedagogy training that focuses on delivering

the applied learning experiences such as the web based modules, the investigative and research case studies, and guided inquiry laboratories. Instruction will include the following: best practices; common challenges; custom consultation on finding appropriate problems and cases; adopting/adapting lessons to their classroom/students; practice facilitating small groups; strategies for addressing behavioral problems in small groups; identifying concepts/misconceptions to address through cases; writing learning objectives; coaching students to identify, research, and discuss their learning objectives. During this week the new teachers will also meet and bond with highly-effective teacher mentors. (Five Clayton County teacher mentors will be hired each summer to closely work with the new teachers during the first and last week of the summer program as well as the academic year.) Finally in this first segment the new teachers will be given a workshop on how to construct a professional development plan and participate in collaborative goal setting. Developing a professional development plan and collaborative goals will be an ongoing activity during the summer.

The second segment of the summer program (four weeks long) will consist of the high school teachers assisting in the teaching of the technology based curriculum and skills they just learned. This innovative second implementation segment insures that the new teachers master the educational approach to providing applied learning experiences and provides an opportunity for the Morehouse faculty to give assessment and guidance to the new teachers. The third and final segment will overlap with the last week of the program. In this curriculum development segment, the new teachers will be given time to plan ways to infuse the material learned in the first five weeks in their specific high school biology, chemistry, physical science and/or physics classes. Specifically, they will identify courses for infusion, review techniques and policies for infusion, and then develop new curricula by infusion. The high school mentors will also be available during the last week of this phase to assist the new teachers in the finalization of curriculum infusion, the professional development plan, and collaborative goal.

During the following academic year, the new teachers will receive continued support as they matriculate through the school year and implement their professional plans, collaborative goals and curriculum in their classrooms. First, the teacher mentors will be instructed to informally meet and assist the new teachers on an ongoing basis. In addition, the new teachers will participate in monthly group meetings with the teacher mentors, Morehouse College faculty and staff (i.e. Crystal James, Program Assistant and/or Lycurgus L. Muldrow), and on several occasions leadership experts and inquiry-based pedagogy experts from Emory University. In these meeting teachers will discuss implementation successes and challenges, as well as the mentoring activities between the new teachers and teacher mentors that occurred outside of the monthly meetings. Second, a class room visitation for each new teacher, at least once per semester, will be conducted by Morehouse staff. These visitations and monthly meetings will provide an opportunity for monitoring and formative assessment of professional

development plans, standards and effectiveness of the applied learning opportunities that are being implemented by the teachers. These sessions will also be used to provide constructive feedback to new teachers.

Finally, an all day professional development workshop designed to fine tune pedagogical skills learned during the summer will be conducted for the teachers in December. These workshops will be facilitated by the faculty and staff members that taught the high school teachers during the summer program and will include: guided reflection and self-assessment; debrief and group discussion of implementation success and challenges, in order to provide specific recommendations for improvement and to reinforce best practices; guided revision of lessons/strategies in preparation for future implementation; demonstration of examples of lessons implemented and share lessons learned.

The last component of the New High School Teacher Induction Program will consist of the new high school teachers that just completed one year of the program returning the following summer to assist with the induction of new teachers. The returning teachers will be required to participate in key activities such as goal setting and professional development plans during the first and last week of the summer program. These returning mentors will provide firsthand experience as to professional development plans, collaborative goal setting, and successes and challenges inclusive of teacher effectiveness measures.

New Leader Training Program: The New Leader Training Program has two objectives, first and most importantly increase retention of new teachers, and then train new leaders. The main Priority 2 goal of this proposal is to provide a comprehensive induction program for new teachers. One of the most effective ways to initiate and incorporate a new individual in a system is to have these new individuals interact with leadership. Consequently, the New Leader Training Program is not just designed for developing effective new leaders, but also for assimilating new teachers into the Clayton County Public School system in a way to decrease attrition. It should also be noted that the nature the leadership training course that is being offered for new administrators is most valuable when teachers are present.

This leadership workshop will be offered each year during the summer with 19 participants (7 new teachers, 5 teacher mentors and 7 new leaders i.e. principals, assistant principals or department heads). The workshop, follow up exercises, workbook and leader effectiveness measures will be specifically designed to facilitate specific leadership skills required in Clayton County. The primary methods of leadership training will be story-telling and reflective discourse; consequently, it is necessary to sequester participants in an environment in which workshop activities stretch into the evenings. To facilitate this process, the leadership workshop will be given in a two day retreat format in which the participants will stay in a motel.

The new leader participants for this workshop will be chosen at the district level. New leaders will be given a \$1,000 stipend as an incentive to participate in the leadership workshop and follow up activities which includes measuring leader progress, monitoring professional development plans and collaborative goals, as well as formative assessment in general. Follow up sessions for leadership activities will be conducted at several of the monthly meeting with new teachers.

Section 4: Quality of Project Evaluation

Evaluation Strategy: The evaluation strategy for this project is comprehensive, long range, and founded on proven and published evaluation strategies for interdisciplinary education (30). In general, proposed efforts to assess project processes and outcomes are best describes as a *repeated measures (test-retest or pretest/posttest)* format in the context of a prescribed follow-up schedule.

A comprehensive detailed *Evaluation Plan* will be used from the beginning of the program in order to establish a foundation and guidance for all program activities and assessments. For example, upon funding, assessments will be developed, and sent to teachers that have recently left CCPS. This may provide useful data for refinement of these instruments and professional development workshops for the new teachers in the New Teacher Induction Program. As required, these instruments will be submitted and passed through the appropriate Internal Review Board (IRB) procedure for approval.

Also included in the plan will be a *Heuristic Model* that serves as a visual presentation and aid to learning, discovery, and problem-solving by experimental and especially trial-and-error methods. Additionally, as a means of theoretical and analytical evaluation, a *Logic Model* will serve as a planning worksheet for assessment and evaluation and will continually serve as a record to stimulate proposed and potential paths of ongoing inquiry, analyses, and theoretical reference. Finally teacher and leader effectiveness measures will be specifically developed based on the unique environment and needs of CCPS which will have multiple rating categories, value-added/growth scores and examine reduction of student achievement gaps.

Project Goals, Objectives, Indicators/Measures and Outcomes in the Context of Evaluation: All activities in this project are aligned with specific measurable outcomes as prescribed by Priority 1 and Priority 2 in the Georgia RT3 Innovation Fund Request for Proposals Announcement. Goals and objectives are linked to specific indicators and outcomes within an overall evaluation protocol. More specifically, learning objectives are linked to each summer program component by indication of teachers' levels of pedagogical skill. Similarly, student indicators reference their levels of skills with logic in thought processes, scientific methods, problem solving, creative thinking, inquiry-based guided exercises and their ability to work in teams.

Upon students' increased proficiency in problem solving, communication, and self-management, anticipated student performance outcomes relative to achievement progress goals for students that participated in the summer program include: 1) an increased average high school science GPA of 0.5 points; 2) an increase in

college attendance, specifically 90% of these students will apply and attend college; and, 3) and increase in STEM majors, specifically 70% will declare a college major in STEM.

Student performance outcomes anticipated relative to achievement progress goals for all students taught by the new teachers during the academic year include the following: 1) an increase in the overall average performance in high school science courses, specifically, an increase in the “successful” pass rate in biology from 40% to 70%, and in physical science from 53% to 80%. Note the current pass rate is 40% in biology and 53% in physical science (see Target Population and Geographic Location). This will increase the number of students that pass the EOCT and graduate; and, 2) an increase in interest in STEM related college majors upon graduation from high school and entrance into college. As it relates to new teachers, a specific achievement progress goal is that 95% of these new teachers (and leaders) will still be employed in the CCPS after five years.

Data Collection: Quantitative and qualitative process and outcome data will be collected primarily through official school records/documents, custom pre- and post- survey instruments, direct observation, and the continuous review of relative studies and published literature. *Survey instruments* – as indicated earlier, a standard set of assessment survey instruments will be developed for use with teachers and students. These instruments will solicit data from selected courses on content knowledge, performance, applied learning, and attitudes. In addition, *Direct Observation* in the class rooms will provide qualitative data through the opportunity to examine behavior in its “natural” environment.

Data Management: The Division of Science and Mathematics in conjunction with the Assessment and Institutional Research Department has a documented history of experience in collecting, storing, analyzing, and reporting a wide range of individual-level and aggregate data. This experience exists within the scientific protocols and adherence to requirements of specific data management systems. All participants will be issued a non-identifying participant number that will be used on all documents associated with the process and evaluation components.

Analyses: *Quantitative* – Basic *Descriptive Statistics*, such as *Measures of Central Tendency and Dispersion*, will provide familiarity with data and allow fundamental comparisons of baseline and retest results within and between cohorts. In addition, other quantitative analyses will be used such as *Bivariate Analysis* through *Measures of Association* and *Tests of Significance*, as well as *Analysis of Variance* to further indicate significance difference within- and between cohorts.

Qualitative – *Grounded Theory* will be used to promote avocation of the process of simultaneously analyzing data as it is collected through constant comparisons within the context of the project goals and objectives. The tools associated with experienced observation tend to prove most valuable. Subsequently, qualitative data solicitation will take place in the form of periodic observation in the monthly meetings, class room visitations and workshops.

Evaluation Contractor (Independent/External): This project will employ the independent external services of Jeffrey Porterfield, Ph.D. (DBA Strategic Research & Evaluation, LLC) to manage the overall evaluation process, including instrument development and performance assessment. Dr. Porterfield is a quantitative analyst and methodologist with a primary research focus in evaluations. His range of quantitative research skills has been acquired in more than twenty years of experience (see vita in attachments). In addition, Attorney Crystal James, who will dedicate 50% time and effort to this project, will be responsible for administering the evaluation instruments. It should be noted that Attorney James has a master's degree in public health with extensive course work in evaluation, formal training in evaluation, and has served as an evaluator on other projects.

Section 5: Management Plan

The Program Director and Principal Investigator (PI) on this project is Dr. Lycurgus Muldrow. He will be responsible for oversight and management of the entire partnership proposed in this Georgia Race to the Top project, including timely completion of all benchmarks and milestones. He will be responsible for the annual and final project reports, and serve as a member of the faculty for teacher instruction in the summer program. Dr. Muldrow's role will also include assisting in academic year support for teachers. Dr. Muldrow's title at Morehouse College is the Director of Sponsored Research and Integrative Activities in the Division of Science and Mathematics which provides him a unique access to infrastructure resources at Morehouse to accomplish the goals of this grant. He reports directly to the Dean of the Division of Science and Mathematics and has the authority (through the Dean's office) to require participation of STEM departments, minors and programs in Division wide events such as involvement in the Innovation Expo. Finally, the faculty members that will teach in the high school summer program and New High School Teacher Training Program will be under the administrative auspices of Dr. Muldrow.

Attorney Crystal James Sermons will also function as a associate PD on this project. She will report directly to Dr. Muldrow and will assist in the management functions of the program as well have primary responsibility for the administrative and capacity building core to include developing relationships with Morehouse faculty, CCPS personnel, and the evaluator. She will administer daily operations, assist in annual and final reporting, be responsible for managing the budget, organize the faculty development workshops, participate in the Advisory Committees and assist in supervising the Program Associate. As a part of Attorney Sermons 50% time and effort on this program, she will work directly with the evaluator to develop instruments for the evaluation of all phases of the program. Attorney Sermons will function as an instructor during the summer sessions and lead monthly high school teacher meetings and site visits during the academic year.

The Program Associate's responsibilities include: day-to-day program logistics; facilitation of faculty support, student participation, and stipends; assist in gathering data for evaluators; and coordinate

dissemination efforts, as well as seminars and workshops. This individual is essential to the success of this project in that the day-to-day logistics and administrative support required for this multifaceted, year round project is extensive. The Program Associate will report to the PI.

Ms. Malakia Wright, Science Coordinator K-12 at CCPS system will be responsible for coordinating activities and relevant personnel at Clayton County. This includes (but not limited to) advertising for the new teacher, leaders and student programs by way of the high school principals, selecting participants to participate in the summer and academic year program, coordinating bus transportation of high school students to the summer program and Innovation Expo and other logistic concerns. Ms. Malakia Wright and Attorney Sermons will interface on a regular basis to achieve the objectives of this Race to the Top grant. It should be noted that Wright and Sermons already have developed a close working relationship as it relates to CCPS teacher development workshops and CCPS science fairs. For example, Attorney Sermons has actually presented a couple of different workshops in the CCPS summer faculty development program including one titled “Preparing Students for Science Fairs and Other Scientific Presentations.”

An internal Advisory Committee will be formed and meet quarterly. This committee will consist of Dr. J.K. Haynes, the Dean of the Division of Science and Mathematics at Morehouse College, Dr. Diana Carry, Chief Academic Officer of CCPS, Dr. Jeff Porterfield, the external evaluator, Malakia Wright, Science Coordinator K-12 of CCPS, Dr. Muldrow and Attorney James as well as a staff member from Morehouse Colleges Leadership Center and Emory University’s College Center for Science Education. This committee will monitor timely completion of benchmarks and indicators (see Scope of Work and Evaluation tables), give advice as to mid-course corrections that will be implemented by the PIs and resolve any issues that may arrive. An External Advisory Committee will be formed to provide experienced advice and insight, and will meet once per year. The committee members will be identified and polled for acceptance upon funding.

Section 6: Sustainability Plan

Skills Learned: This project has been designed to have sustained positive outcomes after the initial three years of funding. This long range sustainability will occur because the new high school teachers will be permanently empowered to implement applied learning opportunities in their curriculum by: 1) exposing teachers to these opportunities in a class room settings during the summer; 2) giving teachers time to practice these new pedagogical approaches during the summer; 3) giving teachers time to infuse these techniques in their course work while still in the summer program under the tutelage of their mentors and instructors; 4) reinforcing skills learned during the academic year; 5) creating a mentoring program to facilitate the next generation of highly empowered teachers; and 6) the extensive web-site availability of instructional information. Permanent sustainability of applied learning activities occurs once the teachers have thoroughly inculcated these activities into their collection of educational skills and courses.

Scientific Literacy Center: The scientific literacy component of this Race to the Top Innovation Fund is part of a larger Scientific Literacy Center that is being developed at Morehouse under the direction of Dr. Muldrow. In approximately two years a \$6 million proposal will be submitted to the NSF STEP program (www.nsf.gov/pubs/2010/nsf10569/nsf10569.htm) to fund this Scientific Literacy Center, which will include the applied learning, scientific literacy summer program activities for Clayton County high school students. To receive funding for a STEP Center, extensive activities relative to the Center must have been demonstrated. As stated earlier in the Partnership Overview section, an originally unique Scientific Literacy course at Morehouse has been developed, scientific literacy is being taught in a pre-freshmen summer program that serves three colleges, a scientific literacy research project involving 15 institutions is being conducted, and this Race to the Top project will teach scientific literacy to high school students. Ultimate funding of this scientific literacy STEP Center and sustaining this Clayton County program is probable because of the extensive track record being created that is positioning Morehouse College as a natural leader in scientific literacy.

Innovation Expo: The components of the Innovation Expo have been sustained for over 20 years and will be sustained after funding from this grant has stopped. One of the goals of this Expo is to expand high school student activity and the dean of the Division of Science and Mathematics supports this goal. In future years, beyond Race to the Top funding, the Division of Science and Mathematics will continue to target Clayton County schools with a goal of accommodating up to 100 students at no charge.

Morehouse College Commitment: Morehouse College has also demonstrated commitment to the success of this program. Approximately half of the Program Assistant's salary is being provided by Morehouse College; the dormitory counselors and undergraduate tutor counselors will supervise the Clayton County high school students that live on campus at no cost to this grant; and any Clayton County high school students that attended the High School Student Program, and subsequently gets accepted to Morehouse College, Spelman College or Clark Atlanta University and declares a major in STEM will automatically be accepted into the free Pre-Freshmen Bridge Summer Program, resulting in college credit in calculus, or advanced placement in math.

Morehouse College has a demonstrated commitment to summer programs as exemplified by the institutionalized Summer Academy. The Summer Academy is funded by the College and provides an infrastructure to facilitate the acquisition of future funds. The Summer Academy also provides activities for all summer programs such as annual tutor counseling workshops to train faculty, staff and undergraduate students who work in the summer programs, numerous extracurricular and social events every weekend, a Summer Academy wide educational assembly and etc.

Finally, there is a commitment to long term success and the acquisition of resources to continue to implement this and other summer programs by leadership a Morehouse College and CCPS. See

attached letters of support from Dr. Robert Franklin, President of Morehouse College; Dr. J.K. Haynes, Dean of the Division of Science and Mathematics; and Dr. Diana Carry, Chief Academic Officer of CCPS.

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SCOPE OF WORK: RACE TO THE TOP INNOVATION FUND

NAME OF PARTNERSHIP: Student Applied Learning, New Teacher Induction and Staff Leadership Program

GOAL 1: Implement a high school student summer and academic year program that facilitates the outcome of students developing higher order thinking skills through applied learning opportunities.

ACTIVITY	IMPLEMENTATION STEPS	TIMELINE	RESPONSIBILITY	FUNDING SOURCE
High School Student Program	Recruit forty-four (44) high school students into program	April of each year	Clayton County district	RT3
<ul style="list-style-type: none"> Summer Program Innovation Expo 	Students participate in 5-week summer program Innovation Expo student presentations	June to mid-July February each year	Morehouse faculty & staff Morehouse faculty & staff	RT3 & Morehouse RT3
<ul style="list-style-type: none"> Science Fairs Scholarships 	High school science fairs(s) student presentations Scholarships awarded to students to attend Morehouse	Through the year February each year	Morehouse and teachers Morehouse College	NA Morehouse
<ul style="list-style-type: none"> Pre-freshman Prog. 	Pre-freshman summer program acceptance upon qualification	May of each year	Morehouse College	Morehouse Funding
<p>GOAL 2: Implement a comprehensive induction program that empowers new high school science teachers and leaders to deliver more complex instruction, motivate students and teachers, incorporate high expectations and make better use of available instructional resources.</p>				
ACTIVITY	IMPLEMENTATION STEPS	TIMELINE	RESPONSIBILITY	FUNDING SOURCE
New High School Teacher Induction Program	Recruit seven (7) new high school teachers and five (5) teacher mentors	April of each year	Clayton County	RT3
<ul style="list-style-type: none"> Segment 1: Summer Program 	Educational and pedagogy training, professional development planning, collaborative goal setting and work with mentors	First week in June each year	Morehouse & mentors	RT3 & Morehouse
<ul style="list-style-type: none"> Segment 2: S Prog. 	Exercise and master skills learned in Segment 1	Four weeks-June-July	Morehouse faculty & staff	RT3
<ul style="list-style-type: none"> Segment 3: Summer Program 	Curriculum planning and infusing, finalizing professional development plan and goal setting and work with mentors	Last week of summer program-mid July	Morehouse & mentors	RT3
<ul style="list-style-type: none"> Mentor consultation with new teachers 	Advice and assistance in implement their professional plans, collaborative goals and curriculum	Entire year	Clayton County mentor teachers	RT3
<ul style="list-style-type: none"> Monthly Meetings 	Discuss implementation successes and challenges	Academic Year	Morehouse & mentors	RT3
<ul style="list-style-type: none"> Workshop 	Guided reflection and self-assessment	December, one day	Morehouse College	RT3
<ul style="list-style-type: none"> Returning teachers 	Last year's new teachers advise next year's new teachers	June to mid July	Morehouse & teachers	RT3
<ul style="list-style-type: none"> Leadership Workshop 	Two day leadership workshop retreat with seven new leaders, seven new teachers and five mentor teachers	Summer of each year	Morehouse College	RT3
<ul style="list-style-type: none"> Leadership follow up 	Three monthly sessions during academic year	Sept, Dec. and May	Morehouse College	RT3

GEORGIA BENEFITS FROM A MEASURABLY STRONGER COMMITMENT FROM PUBLIC AND PRIVATE SECTORS TO SUPPORT AND ADVANCE POSITIVE ACADEMIC OUTCOMES FOR STUDENTS		
INDICATOR(S)	DATA COLLECTION METHOD(S)	FREQUENCY OF DATA COL/REVIEW
Program Assistant total \$52,500 (paid directly by Morehouse)	NA	Annually
Pre-Freshman Program Participants (≈\$5,000/student accepted)	Process Outcome Assessment	Annually
Academic Scholarships (eligible parties)	Process Outcome Assessment	Annually
Morehouse Summer Academy activities and training programs	Process Outcome Assessment	Annually
Resident Directors & Tudor Counselors (no cost to RT3)	Process Outcome Assessment	Annually
Proposals to be submitted to federal agencies to continue pro.	Process Outcome Assessment	Annually
Morehouse indirect cost rate 42% & RT3 pays 10%, thus \$240K	NA	Annually
GEORGIA BENEFITS FROM AN INCREASED NUMBER & PERCENTAGE OF STUDENTS & TEACHERS WHO WILL HAVE ACCESS TO INNOVATIVE PROGRAMS, STRATEGIES, AND PRACTICES RELATED TO APPLIED LEARNING AND TEACHER/LEADER RECRUITMENT & DEVELOPMENT		
INDICATOR(S)	DATA COLLECTION METHOD(S)	FREQUENCY OF DATA COL/REVIEW
(57 total & 19/yr) New teacher induction 7/yr, 7/yr leaders & 7/yr mentors (19 new teachers = 20% of all STEM teachers)	Process Outcomes Assessment	Once annually, and at the end of the six-week Summer curriculum
(132 total & 44/yr) Students served by summer program	Process Outcomes Assessment	Once annually, and end of summer program
(300 total & 100/year) Students served Innovation Expo	Process Outcomes Assessment	Once annually, at the end of Innovation Expo
(7,992 total: 1,404/yr one + 2,664/yr two + 3,924/yr three) Base only on new teacher average class size over three years	Process Outcomes Assessment	Once annually
(≈13,400) All CCPS high school students via Leader Training	Process Outcomes Assessment	Once annually
GEORGIA BENEFITS FROM A STRONGER UNDERSTANDING OF THE TYPES OF INNOVATIVE PROGRAMS, STRATEGIES, AND PRACTICES THAT WILL LEAD TO POSITIVE IMPROVEMENTS IN APPLIED LEARNING, TEACHER INDUCTION, AND HOMEGROWN TEACHER PIPELINE EFFORTS		
INDICATOR(S)	DATA COLLECTION METHOD(S)	FREQUENCY OF DATA COL/REVIEW
132 students in High School Student Program	Comprehensive & Cumulative, Pre- Post Assessment	Once annually & at the end of summer prog.
300 additional students at Innovation Expo	Comprehensive & Cumulative, Pre- Post Assessment	Once annually
7,992 ≈30% Students taught by new teachers inductees	Comprehensive & Cumulative, Pre- Post Assessment	Twice annually, at end of 1 st and 2 nd semester
21 new high school teachers- TEM (100% of new teachers & 20% of total STEM teachers in CCPS): 21 new leaders - LEM	Comprehensive & Cumulative, Pre- Post Assessment	Twice annually & at the end of summer prog.
GEORGIA BENEFITS FROM IMPROVED STUDENT OUTCOMES		
INDICATOR(S)	DATA COLLECTION METHOD(S)	FREQUENCY OF DATA COL/REVIEW
Increased Student Achievement: Successful increase in pass rate of teacher inductee students in biology by 30% (2,398 students) and in physical science by 27% (2158 students); thus, increasing pass rate on EOCT. The 132 students in summer program increase GPA by 0.5, increase in college attendance to 90%, and increase in STEM college majors to 70%.	Process Outcomes Assessment Official School Records/Documents	Twice annually, in December, at the end of the 1 st semester and in June, at the end of the school year

**GOVERNOR'S OFFICE OF PLANNING AND BUDGET
RACE TO THE TOP INNOVATION FUND BUDGET FORM**

Project Name:	Student Applied Learning and Staff Leadership Training in Clayton County Public Schools
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**SECTION A - BUDGET SUMMARY
INNOVATION FUND COSTS**

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
1. Personnel	\$85,605	\$88,173	\$90,818	\$264,596
2. Fringe Benefits	\$22,082	\$22,852	\$23,645	\$68,579
3. Travel	\$12,000	\$12,000	\$12,000	\$36,000
4. Equipment	\$0	\$0	\$0	\$0
5. Supplies	\$35,000	\$30,000	\$30,000	\$95,000
6. Contractual	\$67,032	\$67,032	\$67,032	\$201,096
7. Construction	\$0	\$0	\$0	\$0
8. Other	\$29,120	\$29,120	\$29,120	\$87,360
9. Total Direct Costs (lines 1-8)	\$250,839	\$249,177	\$252,615	\$752,631
10. Indirect Costs*	\$25,084	\$24,918	\$25,262	\$75,264
11. Training Stipends	\$71,400	\$71,400	\$71,400	\$214,200
12. Total Costs (lines 9-11)	\$347,323	\$345,495	\$349,277	\$1,042,095

**SECTION B - BUDGET SUMMARY
NON-INNOVATION FUND COSTS**

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Total (d)
1. Personnel	\$13,500	\$13,500	\$13,500	\$40,500
2. Fringe Benefits	\$4,050	\$4,050	\$4,050	\$12,150
3. Travel				
4. Equipment				
5. Supplies				
6. Contractual				
7. Construction				
8. Other				
9. Total Direct Costs (lines 1-8)				
10. Indirect Costs*				
11. Training Stipends				
12. Total Costs (lines 9-11)	\$17,550	\$17,550	\$17,550	\$52,650

SECTION C - BUDGET NARRATIVE (see instructions)

Section C. Budget Narrative

1. **Personnel:** The following table itemizes the budget breakdown for year one as it relates to specific personnel. Funds requested for the four faculty lectures remains the same in years one, two and three. There is a 3% percent increase in the personnel salary line item in years two and three; consequently, increasing the total allocation each additional year.

Position	Name	Time	Base Salary	Amount Requested
Principle Investigator I	Lycurgus Muldrow	30%	\$83,308	\$24,992
Principle Investigator II	Crystal James	50%	\$52,226	\$26,113
4 Faculty Lecturers	TBH	4%	\$75,000	\$12,000 (\$3000 each)
Program Assistant	TBH	100%	\$40,000	\$22,500
TOTAL				\$85,605

2. **Fringe Benefits:** Thirty percent (30%) personnel salary is the requested fringe benefits rates. The total fringe benefits requested for year one is \$25,682. Fringe in years two and three is \$22,852 and \$23,645 respectively.
3. **Travel:** The student participants in the program will be bused daily from a Clayton County School location to be determined to Morehouse College’s campus to participate in the training program. There will also be travel expenses associated with the experts contracted to provide workshops. A total of \$12,000 each budge year is requested for travel.
4. **Equipment:** Equipment has not been requested.
5. **Supplies:** In year one \$35,000 has been budgeted for supplies. Supplies are required for solutions, chemicals, general laboratory protective equipment for students and teachers, as well as a research supply budget for the investigator and supplies for the guided inquiry research laboratory kits. For example the GreenTech™ Energy Efficiency and Renewable Energy Training Lab kits cost \$500 each. In addition funds are requested for materials for participants in classroom activities, textbooks, meeting and workshop supplies, as well as paper for printing posters. Also included in this line item in year one is an allocation to purchase a desk top computer, monitor, and I-Pad for the program assistant. The supply line item is reduced to \$30,000 for years two and three of the program.
6. **Contractual:** (Total Allocation \$67,032)
Name of Consultants: Jeffery Porterfield, Ph. D (\$20,250)
Nature of Services to Be Rendered: This contractor will be responsible for the evaluation of program activities and generation of evaluation tools.

Relevance of Service to the Project: The project will seek to gather best practices and solutions for the greatest impact on students identified and teachers in STEM areas. To ensure that the strategies proposed are providing positive outcomes and meaningful impact a comprehensive evaluation plan will be developed and implemented.

The Number of Days of Consultation - Basis for Fee: The project expects to engage Dr. Porterfield to assist in the development of evaluation tools for individual workshops as well as for overall strategies in the program implementation. It is anticipated that it will require 100 hours of work to complete this work (135 hours X \$150.00/hr = \$20,250). This cost will remain consistent for the three year program period.

Name of Consultants: Tameka Clements, Ph.D (\$7,000)

Nature of Services to Be Rendered: Dr. Clements will work with Morehouse College faculty to develop guided inquiry laboratories that are relevant and congruent with current standards for high school level curricula.

Relevance of Service to the Project: The project will seek to prepare high school students and teachers to engage the scientific method in a classroom and laboratory setting. Having a high school teacher who has experience with the appropriate level of science inquiry will ensure that the program is more effective.

The Number of Days of Consultation - Basis for Fee: The project expects to engage Dr. Clements to be on-site for the two week training period as well as prepare the laboratories for student and teacher participation. It is anticipated that it will require 70 hours of work to complete this work. (70 hours X \$100.00/hr = \$7,000) This cost will remain consistent for the three year program period.

Name of Consultants: Emory College Center for Science Education (\$10,000)

Nature of Services to Be Rendered: The contractor will utilize its more than ten years of experience to demonstrate to new high school teachers in the program strategies, practice skills, and varying skills to increase the diversity and rigor of their science class and laboratory instruction tool kit.

Relevance of Service to the Program: The program seeks to provide new high school teachers with enhanced tools and skills to translate the scientific curriculum into inquiry based environments that connect students to real world issues and introduce lifelong learning skills.

The Number of Days of Consultation - Basis for Fee: The program expects to engage the Emory College Center for Science Education to deliver workshops during the summer and the academic year. It is anticipated that it will cost \$10,000 for the summer workshops and \$3000 for the follow up sessions during the academic year). This cost will remain consistent for the three year program period.

Name of Consultants: Dr. Walter Fluker (\$12,500)

Nature of Services to Be Rendered: This contractor will conduct a two-day leadership workshop during the summer program with follow-up sessions to be scheduled during the academic year.

Relevance of Service to the Program: The program will assist new administrators and other leaders in science departments of Clayton County to develop the leadership skills necessary to ensure the changes in the science curriculum necessary to improve test scores

and overall academic performance in STEM areas are that supported at the administrative level.

The Number of Days of Consultation - Basis for Fee: The program is expected to engage Dr. Walter Fluker and staff to deliver a workshop that has demonstrated efficacy. It is anticipated that the two-day intensive workshop with follow up sessions during the academic year will cost (\$12,500) to implement. This cost will remain consistent for the three year program period.

Name of Consultants: 5 Clayton County Senior Teachers (\$10,000)

Nature of Services to Be Rendered: This contractor will serve as a mentor/leader in the county to assist new teachers from the program to implement lessons learned during the academic year.

Relevance of Service to the Program: In order to ensure that new teachers have continuous opportunities for hands on assistance, five senior teachers will be contracted to meet periodically with the new teachers and work with them to increase their successful outcomes. These mentor teachers will also participate in the leadership workshops that will be offered to the new leaders.

The Number of Days of Consultation - Basis for Fee: The program is expected to engage the five senior teachers to be available for 10 months to assist new teachers. They will be compensated \$500/bimonthly or a total of \$2000 each for their time and service to the program. This cost will remain consistent for the three year program period.

Name of Contractor: Georgian Terrace Hotel (\$7,282)

Nature of Services to Be Rendered: The leadership workshop will be conducted at the Georgian Terrace hotel conference center and the new administrators and teachers will be provided accommodations for a two night stay for this workshop.

Relevance of Service to the Project: The workshop has been conducted in many different environments and the workshop developer has determined that a hotel environment works best because late evening interactive sessions are necessary.

Basis for Fee: The program will support new administrators and new teachers (15), Morehouse staff (2) and workshop facilitators (2) for two nights and costs for conference room rentals. This cost will remain consistent for the three year program period.

7. **Construction:** (\$0)
8. **Other Direct Cost:** (Total Allocation \$29,120)

Postage and Delivery: (\$1,000) Includes all general programmatic business, general correspondence to partner organizations and funders. This cost will remain consistent for the three year program period.

Printing and Reproduction: (\$1,000) Includes general fees for stationery, envelopes, special printing such as handouts and class materials. This cost will remain consistent for the three year program period.

Mapp Symposium/Public Health Awareness Conference/Innovation Expo: (\$10,000)
Includes registration for up to \$100 CCPS students to attend the Morehouse College research competition. This amount will cover registration for 100 students. This cost will remain consistent for the three year program period.

Other-Student Meals and Housing: (\$17,120) Student participants will be on campus from 8:30a-5:00p daily during the summer program. It is anticipated that 40 students will be enrolled for a meal cost of \$10/day for 5 weeks=\$10,000 to cover lunch only and 4 students will live on campus and be provided room and board. This cost will remain consistent for the three year program period.

Summer Science programs 40 students 5 weeks (5 days week lunch only) 10/day \$10,000
Summer Research scholars Board for six weeks \$780 per student for 4 students \$3,120
Summer Research scholars Room for six weeks \$1000 per student for 4 students \$4000
This cost will remain consistent for the three year program period.

9. **Total Direct Costs:** Year 1 (\$250,839) Year 2 (\$249,177) Year 3 (\$252,615)
10. **Indirect Cost:** As stipulated in the request for proposal the indirect costs cannot be more than 10% of the direct cost per year. Cost for student stipends are not included in the indirect cost calculation. Year 1 (\$25,084) Year 2 (\$24,918) Year 3 (\$25,262)
11. **Training Stipends:** (Total Allocation \$71,400)

Other-Student Stipends: (\$24,400) Each student participant will be given a \$300 stipend for their participation in the program.

Summer Science programs 40 students 5 weeks \$100/week = \$20,000
Summer Research scholars 4 students 6 weeks \$100/week = \$2,400
This cost will remain consistent for the three year program period.

Other-New Teacher/New Leader Stipends (\$47,000) Each new teacher in the workshop activities will receive \$6,000 for their full participation in the planned activities. It is anticipated that 7 new teachers will participate in the training workshop activities. Five new leaders will be identified within the county to participate in the leadership training workshops (along with the five senior mentor teachers). Each leader will be paid \$1,000 for their participation. These costs will remain consistent for the three year program period.

12. **Total Costs:** Year 1 (\$347,323) Year 2 (\$345,495) Year 3 (\$349,277)

Section B

1. Personnel

- a. **Personnel:** The following table itemizes the budget breakdown for year one as it relates to the program assistant position, which Morehouse College will partially support.

Position	Name	Time	Base Salary	Amount Requested
Program Assistant	TBH	100%	\$40,000	\$13,500
TOTAL				\$13,500

This cost will remain consistent for the three year program period.

2. Fringe

Thirty percent (30%) personnel salary is the fringe benefits rate at Morehouse College. The total fringe benefits supported by Morehouse College for year one is \$4,050. This cost will remain consistent for the three year program period.

Appendix A

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (MOU) is entered into by and between the Governor's Office of Planning and Budget (OPB) and Morehouse College and Clayton County Public Schools (Partners). The purpose of this agreement is to establish a framework of collaboration, as well as articulate specific roles and responsibilities in support of the State in its implementation of approved Innovation Fund projects. **Any partner named in the aforementioned project will only be considered a member of the partnership if they appear on this Memorandum of Understanding with the State**

I. SCOPE OF WORK

Exhibit 1, the Preliminary Scope of Work, indicates the work that the Partnership is agreeing to implement.

II. PROJECT ADMINISTRATION

A. PARTNERSHIP RESPONSIBILITIES

The Partnership agrees to:

- 1) Implement the plan as identified in Exhibit I of this agreement;
- 2) Actively participate in all relevant convenings, communities of practice, or other practice-sharing events that are organized or sponsored by OPB, the Georgia Department of Education, the Governor's Office of Student Achievement and the US Department of Education;
- 3) Post to any website specified by the State in a timely manner, all non-proprietary products and lessons learned using funds associated with the Innovation Fund;
- 4) Participate, as requested, in any evaluations of this grant conducted by the State or agency conducting business on behalf of the State;
- 5) Be responsive to State requests for information including the status of the project, project implementation, outcomes, and any problems anticipated or encountered; and
- 6) Participate in meetings and telephone conferences with the State to discuss (a) progress of the project, (b) potential dissemination of resulting non-proprietary products and lessons learned, (c) plans for subsequent years of the Innovation Fund grant period, and (d) other matters related to the Innovation Fund grant and associated plans.
- 7) The partnership is not a legally created partnership. Neither party accepts responsibility or liability for the acts or omissions of the other party.

B. STATE RESPONSIBILITIES

The State agrees to:

- 1) Timely distribute the Partnership's grant during the course of the project period;
- 2) Provide feedback on the Partnership's status updates, annual reports, any interim reports, and projects plans and products; and
- 3) Identify sources of technical assistance for the project.

C. JOINT RESPONSIBILITIES

- 1) OPB and the Partnership will each appoint a key contact person for the Innovation Fund grant.
- 2) These key contacts from OPB and the Partnership will maintain frequent communication to facilitate cooperation under this MOU.
- 3) State and Partnership grant personnel will work together to determine appropriate timelines for project updates and status reports throughout the grant period.
- 4) State and Partnership grant personnel will negotiate in good faith to continue to achieve the overall goals of the Innovation Fund.

D. STATE RECOURSE FOR PARTNERSHIP NON-PERFORMANCE

If OPB determines that the Partnership is not meeting its goals, timelines, budget, or annual targets or is not fulfilling other applicable requirements, OPB will take appropriate enforcement action, which could include a collaborative process between OPB and the Partnership, or any of the enforcement measures that are detailed in 34 CFR section 80.43 including putting the Partnership on reimbursement payment status, temporarily withholding funds, or disallowing costs.

III. ASSURANCES

The Partnership hereby certifies and represents that it:

- 1) Has all requisite power and authority to execute this MOU;
- 2) Agrees to implement the work indicated in Exhibit I, if funded;
- 3) Will comply with all terms of the grant and all applicable Federal and State laws and regulations, including laws and regulations applicable to the Race to the Top program and the applicable provisions of EDGAR (34 CFR Parts 74,75, 77, 79, 80, 81, 82, 84, 85, 86, 97, 98 and 99).

IV. MODIFICATIONS

This Memorandum of Understanding may be amended only by written agreement signed by each of the parties involved.

V. DURATION/TERMINATION

This Memorandum of Understanding shall be effective, beginning with the date of the last signature hereon and, if a grant is received, ending upon the expiration of the grant project period, or upon mutual agreement of the parties, whichever occurs first.

VI. SIGNATURES

Partnership Executive Official – required:

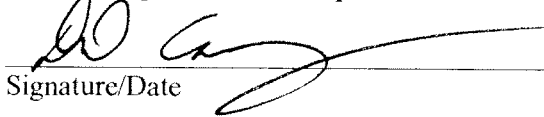
11-1-11

Signature/Date



Sheila Jacobs, Interim Vice-President for Business and Finance/CFO
Partnership Member

Partnership Member – required:

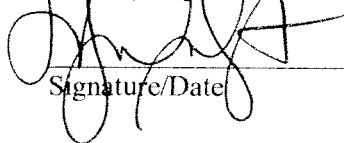


Signature/Date

Diana Dumetz-Carry - Chief Academic Officer

Print Name/Title

Partnership Member – required:



Signature/Date

Malakia Wright K-12 Science Coordinator
Print Name/Title

Governor's Office of Planning and Budget – required:

Signature/Date

Print Name/Title

ASSURANCES

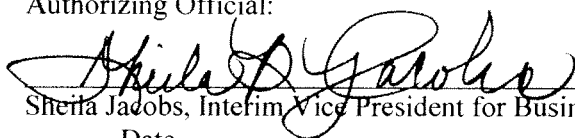
The Applicant hereby assures and certifies compliance with all federal statutes, regulations, policies, guidelines and requirements, including OMB Circulars No. A-21, A-87, A-110, A-122, A-133; E.O. 12372 and Uniform Administrative Requirements for Grants and Cooperative Agreements 28 CFR, Part 66, Common rule, that govern the application, acceptance and use of federal funds for this federally-assisted project.

Also the Applicant assures and certifies that:

1. It possesses legal authority to apply for the grant; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information
2. It will comply with requirements of the provisions of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (P.L. 91-646) which provides for fair and equitable treatment of persons displaced as a result of federal and federally - assisted programs.
3. It will comply with provisions of federal law which limit certain political activities of employees of a State or local unit of government whose principal employment is in connection with an activity financed in whole or in part by federal grants. (5 USC 1501, et seq.)
4. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act if applicable.
5. It will establish safeguards to prohibit employees from using their positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.
6. It will give the sponsoring agency or the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.
7. It will comply with all requirements imposed by the federal sponsoring agency concerning special requirements of law, program requirements, and other administrative requirements.
8. It will insure that the facilities under its ownership, lease or supervision which shall be utilized in the accomplishment of the project are not listed on the Environmental Protection Agency's (EPA) list of Violating Facilities and that it will notify the federal grantor agency of the receipt of any communication from the Director of the EPA Office of Federal Activities indicating that a facility to be used in the project is under consideration for listing by the EPA.
9. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976, Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards. The phrase "federal financial assistance" includes any form of loan, grant, guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect federal assistance.

10. It will assist the federal grantor agency in its compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 USC 470), Executive Order 11593, and the Archeological and Historical Preservation Act of 1966 (16 USC 569 a-1 et seq.) by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the federal grantor agency of the existence of any such properties, and by (b) complying with all requirements established by the federal grantor agency to avoid or mitigate adverse effects upon such properties.
11. It will comply, and assure the compliance of all its sub-grantees and contractors, with the applicable provisions of Title I of the Omnibus Crime Control and Safe Streets Act of 1968, as amended, the Juvenile Justice and Delinquency Prevention Act, or the Victims of Crime Act, as appropriate; the provisions of the current edition of the Office of Justice Programs Financial and Administrative Guide for Grants, M7100.1; and all other applicable federal laws, orders, circulars, or regulations.
12. It will comply with the provisions of 28 CFR applicable to grants and cooperative agreements including Part 18, Administrative Review Procedure; Part 20, Criminal Justice Information Systems; Part 22, Confidentiality of Identifiable Research and Statistical Information; Part 23, Criminal Intelligence Systems Operating Policies; Part 30, Intergovernmental Review of Department of Justice Programs and Activities; Part 42, Nondiscrimination/Equal Employment Opportunity Policies and Procedures; Part 61, Procedures for Implementing the National Environmental Policy Act; Part 63, Floodplain Management and Wetland Protection Procedures; and federal laws or regulations applicable to Federal Assistance Programs.
13. It will comply, and all its contractors will comply, with the nondiscrimination requirements of the Omnibus Crime Control and Safe Streets Act of 1968, as amended, 42 USC 3789(d), or Victims of Crime Act (as appropriate); Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973, as amended; Subtitle A, Title II of the Americans with Disabilities Act (ADA) (1990); Title IX of the Education Amendments of 1972; the Age Discrimination Act of 1975; Department of Justice Non-Discrimination Regulations, 28 CFR Part 42, Subparts C, D, E, and G; and Department of Justice regulations on disability discrimination, 28 CFR Part 35 and Part 39.
14. In the event a federal or state court or federal or state administrative agency makes a finding of discrimination after a due process hearing on the grounds of race, color, religion, national origin, sex, or disability against a recipient of funds, the recipient will forward a copy of the finding to the Office for Civil Rights, Office of Justice Programs.
15. It will provide an Equal Employment Opportunity Program if required to maintain one, where the application is for \$500,000 or more.
16. It will comply with the provisions of the Coastal Barrier Resources Act (P.L. 97-348) dated October 19, 1982 (16 USC 3501 et seq.) which prohibits the expenditure of most new federal funds within the units of the Coastal Barrier Resources System.
17. It will comply will all ARRA requirements. All funds must be spent with an unprecedented level of transparency and accountability. Accordingly, recipients of ARRA funds must maintain accurate, complete, and reliable documentation of all ARRA expenditures.

Authorizing Official:



Sheila Jacobs, Interim Vice President for Business and Finance/CFO

Date

NON-SUPPLANTING CERTIFICATION

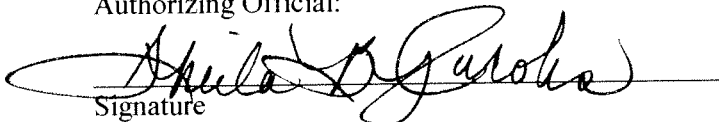
Regulations require certification to the effect that grant funds will not be used to increase state or local funds that would, in the absence of such grant aid, be made available for the purpose of this grant program.

CERTIFICATION:

I certify that grant funds will not be used to supplant state or local funds that would otherwise be available for implementation of this grant program.

I further certify that the program proposed in the grant application meets all the requirements of the applicable Race to the Top Innovation Fund Request for Proposal; that all the information presented is correct and that the applicant will comply with the provisions of the Governor's Office of Planning and Budget, all applicable federal and state laws, and the above mentioned certification should a grant be awarded.

Authorizing Official:


Signature

11-1-11
Date

Sheila Jacobs, Interim Vice President for Business and Finance/CFO

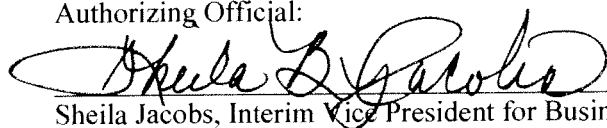
IMMIGRATION AND SECURITY FORM

A. In order to insure compliance with the Immigration Reform and Control Act of 1986 (IRCA), D.L. 99-603 and the Georgia Security and Immigration Compliance Act OCGA 13-10-90 et.seq., Contractor must initial one of the sections below:

Contractor has 500 or more employees and Contractor warrants that Contractor has complied with the Immigration Reform and Control Act of 1986 (IRCA), D.L. 99-603 and the Georgia Security and Immigration Compliance Act by registering at <https://www.visdhs.com/EmployerRegistration> and verifying information of all new employees; and by executing any affidavits required by the rules and regulations issued by the Georgia Department of Labor set forth at Rule 300-10-1-.01 et.seq. Contractor has 100-499 employees and Contractor warrants that no later than July 1, 2008, Contractor will register at <https://www.visdhs.com/EmployerRegistration> to verify information of all new employees in order to comply with the Immigration Reform and Control Act of 1986 (IRCA), D.L. 99-603 and the Georgia Security and Immigration Compliance Act; and by executing any affidavits required by the rules and regulations issued by the Georgia Department of Labor set forth at Rule 300-10-1-.01 et.seq. Contractor has 99 or fewer employees and Contractor warrants that no later than July 1, 2009, Contractor will register at <https://www.visdhs.com/EmployerRegistration> to verify information of all new employees in order to comply with the Immigration Reform and Control Act of 1986 (IRCA), D.L. 99-603 and the Georgia Security and Immigration Compliance Act; and by executing any affidavits required by the rules and regulations issued by the Georgia Department of Labor set forth at Rule 300-10-1-.01 et.seq.

B. Contractor warrants that Contractor has included a similar provision in all written agreements with any subcontractors engaged to perform site under this Contract.

Authorizing Official:



Sheila Jacobs, Interim Vice President for Business and Finance/CFO

11-1-11

Date

CERTIFICATION REGARDING LOBBYING (ED 80-0013)

Certification for Contracts, Grants, Loans and Cooperative Agreements.

The undersigned certifies, to the best of his or her knowledge and belief, that:

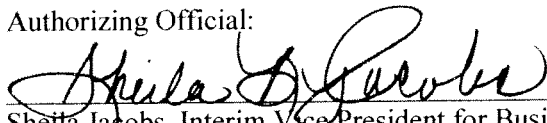
- 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal Loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan or cooperative agreement.
- 2) If any funds other Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan or cooperative agreement, the undersigned shall complete and submit Standard Form – LLL, “Disclosure of Lobbying Activities,” in accordance with its instructions.
- 3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance.

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee or any agency, a member of Congress, an officer or employee of Congress or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, “Disclosure of Lobbying Activities,” in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Authorizing Official:



Sheila Jacobs, Interim Vice President for Business and Finance/CFO

11-1-11

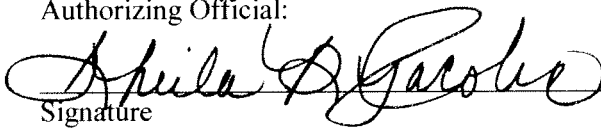
Date

OTHER CERTIFICATIONS

Regulations require certification to the effect that grant funds will not be used to increase state or local funds that would, in the absence of such grant aid, be made available for the purpose of this grant program.

1. Any person associated with the program that has reasonable cause to believe that a child has been or is being abused, shall be required to report or cause report to be made with regard to the abuse as provided in O.C.G.A. 19-7-5.
2. Background investigations (Georgia Crime Information Center) are required on all persons with direct contact with children and youth. It is left to the discretion of the Partnership to determine the methodology for completing these investigations.
3. Establish/enforce an Internet Security Policy when minor participants and/or staff have online access (supervised or unsupervised). This includes any technology provided by PLC funding and technology used by participants.
4. The grantee agrees to comply with Public Law 103-227, also known as the Pro-Children Act of 1994, which requires that smoking not be permitted in any portion of any indoor facility owed or leased or contracted for by the grantee and used routinely or regularly for the provision of healthy care, day care, early childhood development site, education or library site to children under the age of 18. Failure to comply with the provisions of the law may result in the imposition of a civil monetary penalty up to \$1,000 for each violation and/or the imposition of an administrative compliance order on the grantee.

Authorizing Official:


Signature

11-1-11
Date

Sheila Jacobs, Vice President for Business and Finance/CFO

Appendix B



OFFICE OF THE PRESIDENT

830 Westview Drive, SW

Atlanta, GA 30314-3773

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FAX (404) 659-6536

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Robert M. Franklin

President

November 1, 2011

Ms. Lauren Wright
Governor's Office of Planning & Budget
Attn: Innovation Fund
270 Washington Street, SW, 8th Floor
Atlanta, GA 30334

Dear Ms. Wright:

As president of Morehouse College, it is my pleasure to submit this letter of support of the College's application for the Race to the Top Innovation Fund grant, which will serve to solidify the working relationship we have established with Clayton County Public Schools and implement the Student Applied Learning and Staff Leadership Program at Clayton County.

This proposal is in alignment with both the College's strategic plan and Quality Enhancement Plan. An important part of the institutional mission is to enhance its community partnerships, including local public schools. In a recent meeting with Governor Nathan Deal, we thoroughly discussed this important initiative, and it is clear that this innovative proposal will allow Clayton County high school students and new teachers to be an integral part of our mission and legacy of creating leaders through research and inquiry.

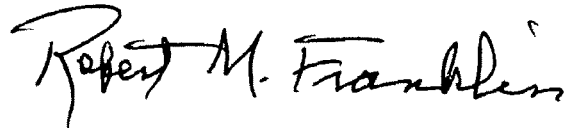
Adequately preparing students to enter into the college setting in the sciences is critical to achieving Morehouse's goal: preparing students for graduate school and successful careers in the sciences. It is also critical to achieving Clayton County's mission, as well as State of Georgia's needs. The lessons learned at Morehouse will be applied to this program, with an expected outcome of increasing the number of Clayton County high school students who enter into and graduate from college in the sciences.

Morehouse College is committed to the successful implementation of this project. The institution will provide the program directors, Dr. Lycurgus L. Muldrow and Attorney Crystal James Sermons, the resources--including classroom, computer facilities, and laboratory space--that they need to carry out this program. Morehouse College will also

provide infrastructure support for this grant through the comprehensive programs and activities sponsored by Morehouse's Summer Academy.

I am personally committed to the success of this important program for Morehouse and the State of Georgia, and I am interested in having a productive relationship with Clayton County Public Schools that will exist even after the Georgia Race to the Top funding ends.

Sincerely,

A handwritten signature in black ink that reads "Robert M. Franklin". The signature is written in a cursive style with a large initial "R" and a distinct "M".

Robert M. Franklin



October 31, 2011

Lauren Wright
Governor's Office of Planning & Budget
Attn: Innovation Fund
270 Washington Street, S.W., 8th Floor
Atlanta, GA 30334

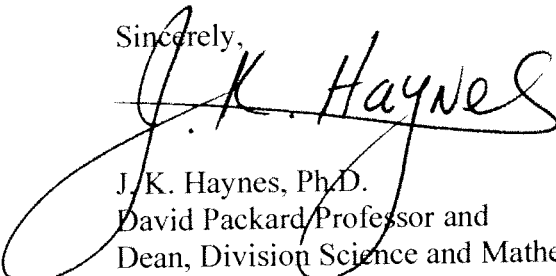
Dear Ms. Wright:

I am enthusiastically writing in support of the Georgia Race to the Top Innovation Fund proposal that it being submitted by Morehouse College to work with Clayton County high school students, new teachers and new leaders. The goals of the "Student Applied Learning, New Teacher Induction and Staff Leadership Program" proposal are very much in keeping with the goals of the Division of Science and Mathematics at Morehouse College. The College has conducted summer programs for many years to increase the pool of talented students who pursue STEM majors in college. The Division also strives to produce students capable of successful STEM careers in private industry and government.

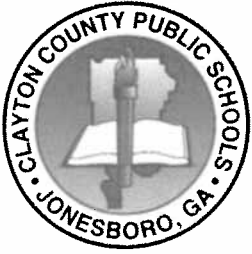
As Dean of the Division of Science and Mathematics, I will make available required infrastructure resources necessary to accomplish the goals of this program. In addition, I will ensure the publicity of this program in relevant Division brochures and literature to promote its exposure and opportunities for ongoing support.

Dr. Lycurgus L. Muldrow and Attorney Crystal James Sermons are highly talented professionals who are not only capable of delivering successful outcomes, but have a track record of excellence. I will be glad to serve on the Internal Advisory Committee for this grant and I look forward to being part of this program.

Sincerely,



J.K. Haynes, Ph.D.
David Packard Professor and
Dean, Division Science and Mathematics



Clayton County Public Schools

Office of the Chief Academic Officer

1058 Fifth Avenue • Jonesboro, Georgia 30236 • (678) 817-3060 • FAX (678) 817-3062

EDMOND T. HEATLEY, Ed.D.
Superintendent of Schools

DIANA DUMETZ CARRY, Ed.D.
Chief Academic Officer

Lauren Wright
Governor's Office of Planning & Budget
Attn: Innovation Fund
270 Washington Street, S.W., 8th Floor
Atlanta, GA 30334

Dear Ms. Wright:

Clayton County Public Schools (CCPS) is proud to support the Student Applied Learning, New Teacher Induction and Staff Leadership proposal that is being submitted to the Georgia Race to the Top Innovation Fund. This proposed work supports CCPS's mission and vision statement which is to empower students to achieve academic and personal goals, and prepare all students to successfully compete in a global economy. The student applied learning activities proposed are truly innovative and the new teacher induction program will provide support to empower new teachers to achieve an increased level of excellence.

Clayton County is committed to the successful implementation of this project. The school district will provide support where ever necessary including access and input from county leadership to ensure the students that are selected for participation are those that are best suited to be enriched from the dynamic programs developed. We will also work together to select and train the new teachers and new leaders in the county to ensure success.

CCPS is looking forward to a long range, sustained relationship with Morehouse College. This Innovation Fund will create the foundation for this relationship which is anticipated to grow far beyond the present magnitude of this proposal. I am truly excited about the potential that this program will have throughout the science programs in Clayton County's high schools.

Sincerely,

Diana Dumetz Carry, Ed.D.
Chief Academic Officer