

**Manhattanville in West Harlem Implementation Plan Report
October 15, 2015 Submission**

Declaration Reference and Key Data

Obligation Section Number: **5.07(c)(xi)**

Obligation Title: **Youth Internships**

Obligation Page Number: **55**

Obligation Trigger: **2010**

Obligation Start Date: **Summer 2010**

Obligation End Date: **2025**

Obligation Status: **In Compliance**

Obligation

Youth Internships. Commencing in 2010, CU shall create a pilot program for up to 15 summer internships per year for high school students with one-third selected from the local community and two-thirds from the upper level students at the School to support academic and research interests of students. The program shall begin with five students from the local community and add 10 students from the new School when students reach the upper grades and qualify for such an internship. The internships shall initially take place in CU's existing facilities and shall move to the new Academic and Academic Research buildings proposed within the Project Site when constructed. After five years the program shall be reviewed by leadership of the School and CU with the intent of modifying, extending the size and/or renewing the program upon mutual agreement.

* Following the summer 2014 internship program, CU will meet with the principal of the school to determine modification, expansion, and/or renewal of the program as described in the obligation above.

Five Year Review and Modifications:

Following the initial five years and in coordination with the School's leadership, CU has modified the internship program to provide a more selective internship to focus on at least one aspect of Science, Technology, Engineering, Environment, Arts and/or Math (STEAM). Working with various units within the University, the modified internship program will include the following adaptations:

New Title: Youth Internships

Timeframe: No longer limited to summer weeks.

Program Duration: Varies. Internships can range from 4 weeks to 9 months depending upon the specific program.

Number of Interns: Up to 10 internships comprised of CSS students and/or local community students.

Internship Locations: Within Columbia University offices and labs

Program Description: CU shall provide free of charge up to 10 high school students attending the Columbia Secondary School for Math, Science and Engineering and/or living within the Local Area an opportunity to participate in one of several youth internship programs operated by Columbia University focusing on math, science, engineering and/or the environment/sustainability. Internship programs vary and are managed by departments, schools and other offices within the University. The internships will be located on the University's campuses.

At the end of 2017, the Internship Program will be reviewed in consultation with ESD with the intent of modifying and/or renewing the program.

Evidence of Compliance

1. Annual report

Annual Report: Youth Internships

State Submission Annual Reporting Period: **October 2014 - September 2015**

2015 Internship Period: **1/24, 1/31, 2/7, 2/28, 3/7, 3/14, 3/21, 4/18, 6/30 - 8/7/2015**

- Information Session Dates:

Lang and State Pre-College Enrichment Program (S-PREP) Programs: November 8, 2014
Columbia Secondary School: November 3, 2014 at CSS (425 West 123rd Street, NY NY)

- Application Deadlines:

State Pre-College Enrichment Program (S-PREP) – November 14, 2014
Lang Program – December 1, 2014
Columbia Secondary School – December 5, 2014

Following the initial five year Summer Internship Program and in coordination with Columbia Secondary School's leadership, CU modified the internship program to provide a more selective internship to focus on at least one aspect of Science, Technology, Engineering, Environment, Arts and/or Math (STEAM). For this reporting period, internships were provided to nine (9) students from the Columbia Secondary School and local community through the BRAINYAC program. Unlike the previous internship program which lasted four (4) weeks, the BRAINYAC program started in January 2015 and included Saturday and summer-time intensive engagement.

The BRAINYAC program (Brain Research Apprenticeships in New York at Columbia) admits students from 3 partner programs who have a stated interest in biomedical and specifically neuroscience research. The students commit to Saturday afternoon classes starting in January and the full-time, six- week summer term (July-August). Students receive a stipend.

	Intern Initials	Zip Code	High School
1.	GG	10034	Columbia Secondary School
2.	MI	10034	Columbia Secondary School
3.	RK	10040	Bronx High School of Science
4.	SL	10027	Columbia Secondary School
5.	CM	10031	High School for Environmental Studies
6.	FM	10033	Columbia Secondary School
7.	AP	10033	The Beacon High School
8.	CQ	10031	Columbia Secondary School
9.	SS	10031	Columbia Secondary School

*****Field highlighted in yellow indicates that intern attends Columbia Secondary School*****

Pursuant to New York State Empire State Development Corporation's request to disclose each applicant's name, address, proof of residency and relationship to current Columbia University Employees to confirm program eligibility, Columbia University will make information available to ESD upon ESD's request.

Additional Supporting Documentation

- BRAINYAC Education Program Manager Biography
- BRAINYAC Application Process
- BRAINYAC 2015 Application Packet
- BRAINYAC 2015 Poster Presentation Program

BRAINYAC Education Program Manager Biography

██████████ holds a Bachelor of Science degree in Zoology from the University of Uyo, in Akwa Ibom State Nigeria and over 13 years of experience teaching the natural sciences in formal and informal settings. She has extensive experience in designing and implementing programs that have proven effective in instilling a love of science in youth during the critical ages of 6 to 18 years of age.

██████ joined Columbia University's Mortimer B. Zuckerman Mind Brain Behavior Institute as the Education Program Manager in July 2015. She is charged with managing the institute's existing education initiatives such as the BRAINYAC Program – a neuroscience research mentoring program for high school students; as well as developing and executing new wide-audience programming for the institute's Center for Education and Outreach.

Prior to joining the Zuckerman Institute, ██████ held the position of Coordinator for the Explorers Program at the Newark Museum from 2008 to 2015. During her tenure at Newark Museum, ██████ developed, coordinated, implemented and managed a year-round constructivist curriculum that supports enquiry-based learning; identifies innovative ways to further utilize the education resources and established relationships with local, regional and cultural institutions to benefit urban youth; incorporated invaluable instructional and life enhancing opportunities to instill in students skills critical to academic success. ██████ also developed numerous new elements to the Explorers Program, including the establishment of the 20-year-old program's alumni association, greatly increasing the quality of the program.

██████ continues with her passion for education, youth development and community enrichment as Education Program Manager at the Zuckerman Institute. She looks forward to getting the community excited about science and bringing brain science to diverse populations.

BRAINYAC Application Process

The BRAINYAC program (Brain Research Apprenticeships in New York at Columbia) admits students from 3 partner programs who have a stated interest in biomedical and specifically neuroscience research. The students commit to Saturday afternoon classes starting in January and the full-time, six- week summer term (July-August). Students receive a stipend of \$1,200 for their participation in the program.

Partner Programs

1. Lang Youth Medical Program

Established in 2003 the Lang Youth Medical Program (Lang Youth) sponsored by New York-Presbyterian Hospital (NYP) is a six-year science enrichment program. Lang Youth serves talented youth in the Washington Heights/Inwood community who aspire to pursue medical and nonmedical careers in health care.

Utilizing NYP resources, Lang Youth offers its students a hands-on science curriculum. In addition, Lang Youth provides opportunities for character development by integrating the curriculum with mentoring, internships, and college preparation outside of the classroom.

Student Eligibility for Lang Youth

To apply to Lang Youth, interested students must be enrolled in the 6th grade and attending a public middle school in the Washington Heights/Inwood community (NYC School District 6). Applicants should have an overall grade point average of 80% or above, 3's or 4's on the math and English Language Arts (ELA) statewide exams from the 5th grade, and an excellent attendance record.

2. State Pre-College Enrichment Program(S-PREP)at Columbia University

The State Pre-College Enrichment Program(S-PREP) is an educational and motivational program for academically talented minority and economically disadvantaged high school students who endeavor to enter the field of medicine, science or related health professions.

Students admitted to SPREP are eligible to apply for a summer research program for high school students run by the Zuckerman Mind Brain Behavior Institute.

Student Eligibility for S-PREP

For purposes of this state-funded program, an eligible student is one who self-identifies as being:

- African-American
- Hispanic/Latino
- Native American
- Alaskan Native
- Or one who meets the economic guidelines outlined by the state.

The student must also be a New York State resident or a permanent resident alien residing in the state.

3. Columbia Secondary School

The Columbia Secondary School for Math, Science, & Engineering is a public, 6th through 12th grade school that opened in the fall of 2007. A partnership between the New York City Department of Education, the community, and Columbia University, CSS-MSE serves academically talented students who have an interest in a rigorous and demanding program focusing on math, science, and engineering.

Student Eligibility for Columbia Secondary School

Students who go to public school or live in Districts 3, 4, 5 or 6 are eligible to apply for 6th, 7th or 8th grades. Application into high school is open citywide. Columbia Secondary School applicants are accepted after an entrance exam and/or interviews.

BRAINYAC Selection Criteria

As part of their application into Lang Youth Medical Program or State Pre-College Enrichment Program(S-PREP), students interested in becoming BRAINYAC scholars indicate this interest during their application into their respective partner programs. BRAINYAC scholars are selected with the help of the partner program staff and/or interviews from these pools of students.

Students from Columbia Secondary School come highly recommended by their teachers. Recommended students are interviewed by Zuckerman Institute staff.

Students who participate in these feeder programs must meet the following criteria to qualify for BRAINYAC:

- Students must be genuinely have interest in biomedical sciences or neuroscience careers
- Students must have a high level maturity needed to work in a sophisticated high-tech lab environment
- Willing to commit to the entirety of the program including the program's schedule
- Preference is given to students residing in northern Manhattan and the south Bronx

Personal Information

First Name*

First Name

Middle Name

Last Name

Are you enrolled in Lang Youth Medical Program, S-PREP, or CSS?*

Lang Youth

S-PREP

CSS

If S-PREP, are you enrolled in AM or PM classes?

AM

PM

Both

If S-PREP, are you able to attend interviews on 11/22/14?

Yes

No

Other:

Home Address*

City

State

Zip Code

Phone Number*

Email Address*

Confirm Email Address*

Sex*

Female

Male

Date of Birth*

Will you be 16 years of age on or before June 15, 2015?*

Yes

No

City or Country of Birth

Citizenship*

U.S.

Other:

If you are not a U.S. citizen, please provide your Alien Registration #

Parent/Guardian Name*

First Name

Last Name

Parent/Guardian Email*

Additional Parent/Guardian Name (optional)

First Name

Last Name

Additional Parent/Guardian Email

Home Phone Number*

Alternate Phone Number (work, cell, or other parent)

Do either or both parents prefer communications in Spanish?

Prefer English

Prefer Spanish

No preference

Name of High School*

School Address

City

State

Zip Code

Current Year in School*

10th Grade

11th Grade

Extracurriculars

Please list 5-10 of your most meaningful extracurricular activities, leadership experiences, or honors and awards (for example: student organizations, athletics, student government, clinical shadowing, etc.).

Activity/Organization

Position

Dates Participating

Activity/Organization

Position

Dates Participating

Activity/Organization

Position

Dates Participating

Activity/Organization

Position

Dates Participating

Activity/Organization

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Dates Participating

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Dates Participating

Activity/Organization

Position

Dates Participating

Activity/Organization

Position

Dates Participating

Essays

Describe what makes you a good candidate for BRAINYAC and what you hope to gain from the program. (Include examples of how you have previously demonstrated your interest in science.)*

Please keep your answer to 500 words or less.

BRAINYAC students are expected to excel in a professional environment where they are frequently the youngest person. What experience or experiences have prepared you for this challenge?*

Please keep your answer to 300 words or less.

Certification

I commit to attending the BRAINYAC training sessions from 1:30-3:30pm on the following Saturdays: 1/24, 1/31, 2/7, 2/28, 3/7, 3/14, 3/21, 4/18. *

Initial above.

I commit to participating in the scientific research laboratory and BRAINYAC advisory sessions from June 30-August 7, 2015. *

Initial above.

I hereby certify that the information included in this application is true and correct to the best of my knowledge: *



[\[clear\]](#)

Use your mouse or finger to draw your signature above

Submit Form



Special Thanks to:

Principal Investigators

[Redacted names of Principal Investigators]

Mentors

[Redacted names of Mentors]

For more information, contact [Redacted]

Email: [Redacted] Phone: [Redacted]

Major funding provided by

The Pinkerton Foundation



BRAINYAC Program Class of 2015
Brain Research Apprenticeships in New York at Columbia

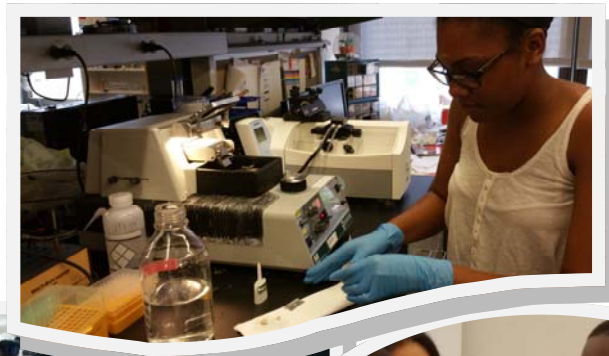
presents

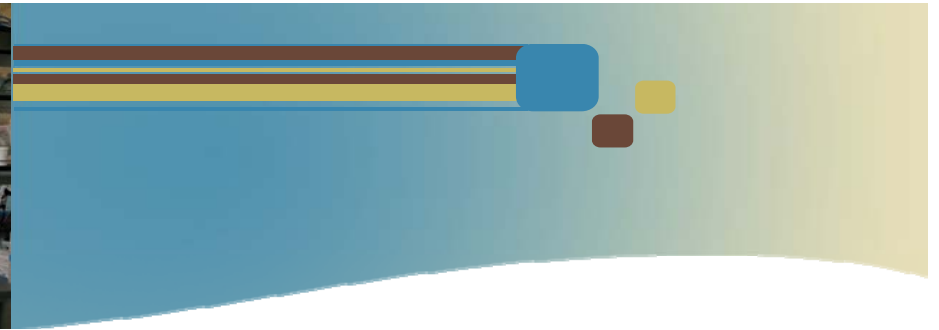
BRAINYAC Research Poster Presentation & Reception

at

Riverview Lounge, 4th Floor
Hammer Health Science Building
701 W 168th St. New York, NY 10032

Friday, August 7, 2015
2:00pm to 4:00pm





PROGRAM Agenda

2:00pm	Guest Arrival
2:00pm—3:00pm	Refreshments and Poster Presentation
3:00pm—3:30pm	Remarks and Certificates
3:30pm—4:00pm	Poster Presentation Continues
4:00pm	Dismissal

BRAINYAC Program Description

Brain Research Apprenticeships In New York At Columbia (*BRAINYAC*) is a mentored science research program for high school students run by the Zuckerman Institute with funding from Pinkerton Foundation. The program aims to introduce high school students to the academic scientific research environment, improve their technical skills and increase their understanding of science.

Students are prepared for laboratory research during eight training sessions from January to April that focus on neuroscience content and basic laboratory skills. Starting in June, students spend six weeks doing mentored research in Neuroscience laboratories at Columbia. Students come away from the program with an increased understanding of science as a career.

BRAINYAC Scholars

██████████	The Study of Spinal Muscular Atrophy in Mice
██████████	The Use of Registration on MRI Fetal Brain Images
██████████	Effect of Neuronal Activity on Mitochondrial Motility & Axonal Branching
██████████	Neural Mechanism Underlying How Stress Hijacks the Reward System
██████████	The Effect of Genetic Engineering on Neuro Transmitter Transports
██████████	How Can Matlab Help Identify the Underlying Symptoms of Autism?
██████████	Kinematic Analysis of Mutant Mice
██████████	Testing Specific Labelling of GPCR HALO Tag By Single Molecule TIRF Microscopy
██████████	Learning Style's Differences as the Underlying Cause of Autistic Behaviors
██████████	What is Dopamine's Role in ADHD?
██████████	Aging Impacts Pattern Separation Memories in Hippocampus
██████████	Identification of Putative Gentle Touch Interneurons in Drosophila Larvae
██████████	Visualizing Biophysics of The Processes Supporting Memory
██████████	Examining Cortical Layer-Specific Expression in Transgenic Mice