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

Following the summer 2014 internship program, CU met with the principal of the school and developed the modifications described below. Empire State Development and Columbia University agreed to this modification on November 28, 2018.

Modified Language:

Following the initial five years and in coordination with the School's leadership, CU has modified the internship program to focus on at least one aspect of Science, Technology, Engineering, Environment, Arts and/or Math (STEAM) and basic office etiquette. 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: No fewer than 15 internships comprised of CSS students and/or local community students.
Internship Locations: Within Columbia University offices and laboratories
Program Description: CU shall provide no fewer than 15 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.

The Internship Program will be reviewed in consultation with ESD with the intent of modifying and/or renewing the program in 2021.

Evidence of Compliance

1. Annual report

Columbia University's Implementation Plan and all supporting documentation are made available on the Columbia Neighbors Webpage at https://neighbors.columbia.edu/content/community-commitments.

EOC Checklist for Obligation 5.07(c)(xi):

Please check to verify EOC items submitted for review.

☐ 1. Annual report

Monitor's Notes / Comments:

_____

_____

_____

_____

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_____

Status:
Please check to indicate the status of Obligation 5.07(c)(xi):

☐ In Compliance

☐ In Progress

☐ Not In Compliance

☐ Not Triggered

Annual Report: Youth Internships

State Submission Annual Reporting Period: **October 2020 - September 2021**

Columbia University offers a variety of internship programs that help local youth gain valuable work experience:

Brain Research Apprenticeships in New York at Columbia (BRAINYAC) is a program that pairs high school students with scientists for intensive lab apprenticeships. This Zuckerman Institute program is an immersive science research experience in which Zuckerman Institute scientists open their doors to high school students, who in turn bring their talents and perspectives to the lab. Started in 2013, BRAINYAC pairs students with scientists who mentor them throughout seven weeks of intensive summer research. The program prepares students for laboratory research through training sessions, which run from January through May, followed by the seven-week period of intensive research during the summer. Upon completing the program, students come away with an increased understanding of how research in the lab leads to transformative discoveries. Eligible sophomores and juniors are drawn from select youth-serving programs: the Lang Youth Medical Program at New York-Presbyterian Hospital; the State Pre-college Enrichment Program run by Columbia University Medical Center; the Double Discovery Center; BioBus, Inc; and the Columbia Secondary School for Math, Science and Engineering (CSS). BRAINYAC receives generous support from the Pinkerton Foundation and the Stavros Niarchos Foundation.

The Columbia University Facilities and Operations (CUFO) High School Summer Internship Program is a structured, six-week initiative that provides students with practical work experience before graduation. The program was started in 2011 and is run by the Columbia University Department of Facilities and Operations for high schoolers that live in the 17 local zip code area. Local refers to those students whose primary residence is located within one of the following 17 zip codes: 10025, 10026, 10027, 10029, 10030, 10031, 10032, 10033, 10034, 10035, 10037, 10039, 10040, 10455, 10451, 10454, 10474.

Engineering the Next Generation (ENG) is a program for high school students interested in engineering.
ENG is an opportunity for motivated high school students from local partner schools to participate in a six-week intensive research program that includes both lab work and supplemental programming to develop their academic and professional skills. Students gain practical research experience, exposure to lab culture, new skills and multi-level mentorship. Program components include working with Engineering faculty, hands-on research skills and experience, master class, poster symposium presentation, college letter of recommendation, and the possibilities of ongoing research and publication in the Columbia Undergraduate Science Journal.

Please refer to each program's annual report for more information on modifications that occurred due to the ongoing COVID-19 pandemic.

Internship Program	Total	# of Local Students	# of CSS Students
BRAINYAC	19	5	5
CUFO	66	31	0
ENG	6	2	5
TOTAL:	**91**	**38**	**10**

Contents of Report

- BRAINYAC Annual Report
- BRAINYAC Brochure
- BRAINYAC Information Session Invitation
- BRAINYAC 2021 Application Packet
- BRAINYAC 2021 Poster Presentation Program
- Columbia University Facilities and Operations (CUFO) Summer Internship Annual Report
- Columbia University Facilities and Operations (CUFO) CTE Remote Workplace Challenge Host Forms
- Engineering the Next Generation (ENG) Annual Report
- Engineering the Next Generation (ENG) 2021 Application Packet
- Engineering the Next Generation (ENG) Virtual Program Model Details

Annual Report: Youth Internships - BRAINYAC

State Submission Annual Reporting Period: **October 2020 - September 2021**

- Information Session Dates: **October 22, 2020 & October 27, 2020**

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).

The BRAINYAC program (Brain Research Apprenticeships In New York At Columbia) admits students with a stated interest in biomedical and specifically neuroscience research and provides immersive science research experience with Zuckerman Institute scientists. The program prepares students for laboratory research through training sessions, which run from January through May, followed by a 7-week period of intensive research during the summer. Upon completing the program, students come away with an increased understanding of how research in the lab leads to transformative discoveries. The program admits from five partner programs; Lang Youth Medical Program, State Pre-College Enrichment Program (S-PREP), Columbia Secondary School, the Double Discovery Center and BioBus, Inc. Participants must be at least 16 years of age in order to participate and are granted a stipend for their time in the program.

During this reporting period the program remained virtual due to the COVID-19 pandemic. The BRAINYAC team worked to sustain and strengthen a sense of community for program participants by working together to creatively find technological resources for the virtual learning environment. Virtual training sessions were held using Zoom and Google Classroom was employed for posting assignments and announcements. The application Discord was also used to communicate with students and mentors, and to encourage them to work in small groups and talk to each other - this was an effort to foster and enhance community. The curriculum explored topics including research expertise, data analysis, computation, coding, and image processing, and guest speakers were scheduled to discuss their research and provide students with a first-hand account of what it would be like to be a reserach scientist.

	Intern Name	Zip Code	High School
1.	[redacted]	10471	Horace Mann School
2.	[redacted]	10011	Columbia Secondary School
3.	[redacted]	10459	University Heights
4.	[redacted]	10038	Bronx Science High School
5.	[redacted]	11590	W. Tresper Clarke High School
6.	[redacted]	10033	Manhattan Village Academy
7.	[redacted]	11746	Half Hallow Hills High School West
8.	[redacted]	10463	Columbia Secondary School
9.	[redacted]	11365	Saint Francis Preparatory School
10.	[redacted]	10025	New Explorations into Science Technology and Math NEST+M
11.	[redacted]	10025	Columbia Secondary School
12.	[redacted]	11746	The Chapin School
13.	[redacted]	11746	The Chapin School
14.	[redacted]	10032	NYC Museum High School
15.	[redacted]	11210	Midwood High School
16.	[redacted]	10023	Columbia Secondary School
17.	[redacted]	11434	School of the Future
18.	[redacted]	11764	Miss Porters School
19.	[redacted]	10026	Columbia Secondary School

Additional Supporting Documentation

- BRAINYAC Brochure
- BRAINYAC Information Session Invitation
- BRAINYAC 2021 Application Packet
- BRAINYAC 2021 Poster Presentation Program

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

BRAINYAC Open House

Brain Research Apprenticeships In New York At Columbia

Do you:

- ☑ *find neuroscience interesting?*
- ☑ *wish to gain research experience?*
- ☑ *want to join a community of young scholars?*

Attend our Open House on Zoom
6:00 – 7:00 pm
Thursday, October 22nd OR Wednesday, October 28th 2020

Learn how to apply and hear from recent BRAINYAC alumni.
Bring your questions! Parents/guardians are encouraged to join.

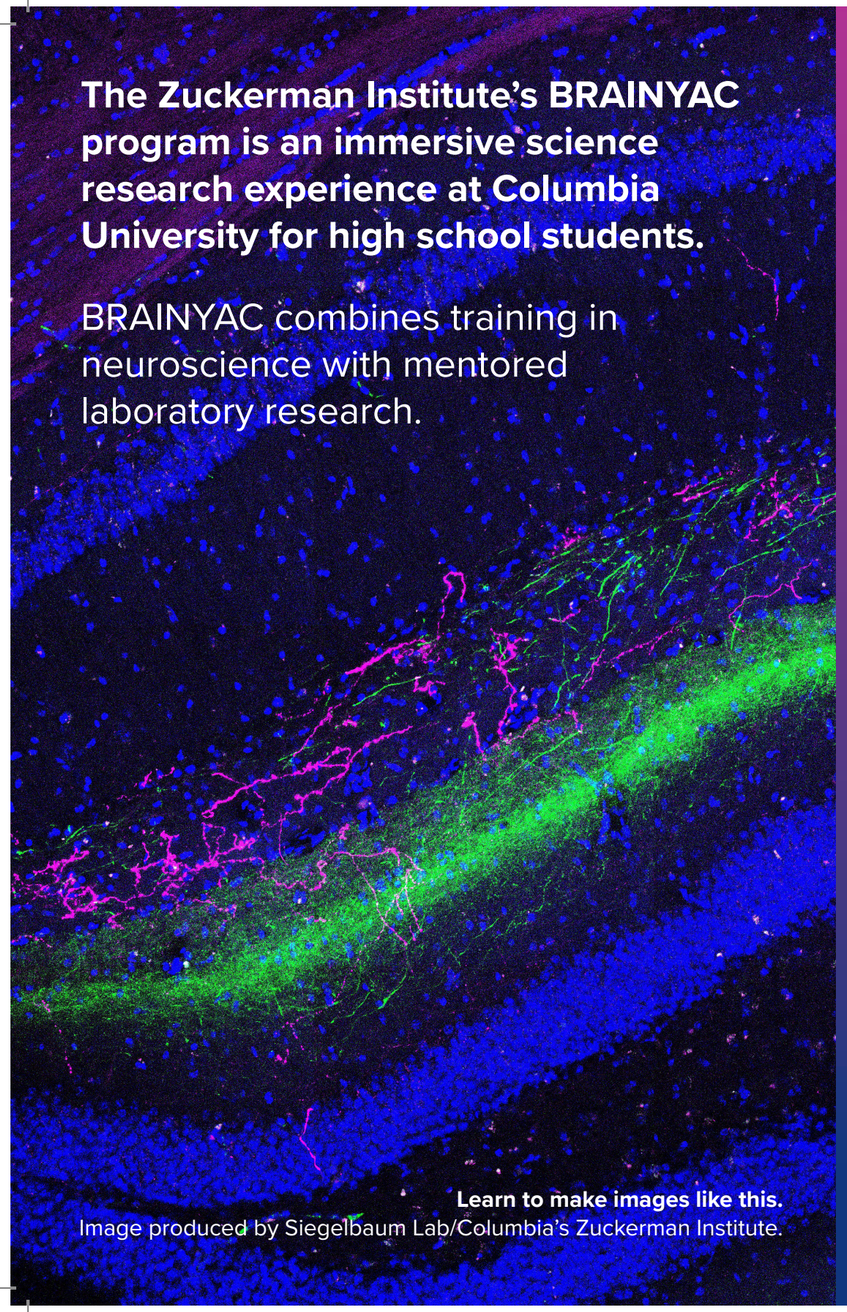
Register online:
http://bit.ly/brainyac2021openhouse

ΙΣΝ/SNF ΙΔΡΥΜΑ ΣΤΑΥΡΟΣ ΝΙΑΡΧΟΣ
STAVROS NIARCHOS FOUNDATION

The Pinkerton Foundation

The Zuckerman Institute's BRAINYAC program is an immersive science research experience at Columbia University for high school students.

BRAINYAC combines training in neuroscience with mentored laboratory research.



Learn to make images like this.
Image produced by Siegelbaum Lab/Columbia's Zuckerman Institute.

Do you want to be a **BRAINYAC** ?

You could be a BRAINYAC if you are:

- ✓ Genuinely interested in the biomedical sciences
- ✓ Ready to work in a sophisticated, high-tech lab environment
- ✓ Willing to commit to the entire program from January - August
- ✓ Enrolled in one of BRAINYAC's partner programs

VISIT US ONLINE

zuckermaninstitute.columbia.edu/brainyac
@zuckermanbrain
zuckermaninstitute

BRAINYAC

Jerome L. Greene Science Center
3227 Broadway
New York
NY 10027

212-853-0600
programs@columbia.edu

FUNDED BY

The Pinkerton Foundation

ISN/SNF ΙΔΡΥΜΑ ΣΤΑΥΡΟΣ ΝΙΑΡΧΟΣ STAVROS NIARCHOS FOUNDATION

BRAINYAC

Brain Research Apprenticeships in New York at Columbia

COLUMBIA | Zuckerman Institute

Eligibility

To apply, you must be:

- ✓ A sophomore or junior in high school
- ✓ 16 years of age or older by the start of the summer session
- ✓ Able to commit to the entire program from January through August
- ✓ Enrolled in one of our partner programs

OUR PARTNER PROGRAMS

- Columbia Secondary School of Math, Science & Engineering
- Double Discovery Center at Columbia College
- Lang Youth Medical Program
- State Pre-College Enrichment Program (S-PREP)
- BioBus, Inc.

What's involved

During the program you will be involved with:

- ✓ Saturday morning training sessions, twice per month, from January - May to build your science knowledge and technical skills
- ✓ A full-time laboratory internship, mentored by a Columbia University neuroscientist, from June - August
- ✓ Weekly advisory sessions through the summer to enhance your presentation skills
- ✓ A stipend that is paid in two installments
- ✓ At the end of the program you will present your research to your friends, family and mentors as well as researchers and the Columbia community

Outcomes

At the end of the program, you will:

- ✓ Have an advanced understanding of how lab research can lead to transformative discoveries
- ✓ Be familiar with a professional and academic environment
- ✓ Have a greater connection to science as a career

ALUMNI OPPORTUNITIES

After you graduate from the program, you can:

- Apply to be a Merit Fellow and get paid to continue working in your lab over the academic year or following summer
- Apply to work as a paid intern for the following year's BRAINYAC program
- Return for alumni events
- Be part of the Zuckerman Institute community

"My favorite part was learning information that became my base knowledge for the summer. I enjoyed being in an environment where questions were encouraged and I learned things I didn't know."

BRAINYAC student
class of 2019

"I conducted my own experiment with a full understanding of my mentor's project and why even my participation was important."

BRAINYAC student
class of 2019

"This program has impacted my life by giving me confidence to believe in myself and trust that I am capable of handling any experience."

BRAINYAC student
class of 2017

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

Welcome to Columbia University's Mortimer B. Zuckerman Mind Brain Behavior Institute

Congratulations on being accepted into the Brain Research Apprenticeships in New York at Columbia (BRAINYAC) Program at the Zuckerman Institute.

This booklet describes the structure, organization, and contractual information for participation in the program. Students and parents or guardians should read through all the material together in order to become familiar with all program components.

By signing the Contractual Agreement, the first form at the end of this booklet, you are agreeing to participate in all training sessions and other events and to abide by all expectations as outlined in this Information Manual. Please understand that the program requires a large time commitment but yields deep benefits.

Our program begins with **Parent-Student Orientation** on **Saturday, January 23rd, 2021** from 12:00pm to 2:00pm on Zoom. *Students must attend with at least one parent or guardian.* We, along with the rest of the BRAINYAC staff, will provide additional information on all program components during the orientation.

Please note that due to the circumstances surrounding COVID-19, the spring semester of the program will be virtual. Whether the summer portion of the program will be virtual or in-person remains to be determined.

If you have any questions, please feel free to contact us. We look forward to meeting and working with each one of you this year.

Sincerely,

[redacted] [redacted]

[redacted] [redacted]

Public Programs Manager Public Programs Associate

[redacted] [redacted]

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

BRAINYAC

Information Manual 2021

Table of Contents

Program Overview and Goals

The Zuckerman Institute's BRAINYAC program is an immersive scientific research experience in which high-school students train and work in neuroscience laboratories at Columbia University.

Founded in 2013, BRAINYAC runs annually from January through August and includes weekend training sessions in the winter and spring paired with a full-time laboratory research internship during the summer.

The program aims to:

- Develop students' research, technical, and critical thinking skills
- Boost students' understanding of and confidence in science
- Strengthen students' communication and presentation skills
- Foster a supportive network and community for its students

Program Structure

The first portion, from January through May, is comprised of Saturday morning training sessions about two or three times per month. During these sessions, students prepare for their summer internships by learning core concepts in biology and neuroscience, practicing essential research techniques, and building key skills that will benefit them in their summer projects. Towards the end of the first portion, students will refine their research interests and participate in a matching event to be paired one-on-one with neuroscientist mentors.

The spring will be entirely virtual. We will be making use of several online learning and communication platforms, including Google Classroom, Zoom, Classcraft, and possibly others (e.g. Slack or Discord).

In the summer, students commence the laboratory research portion of the program at the beginning of July. During the seven-week summer session, students work full-time, Monday through Friday, to pursue a research project under the guidance of their mentors. Students will be placed in a neuroscience lab at Columbia University and might use techniques as diverse as brain imaging, microscopy, working with cells, or computer modelling.

Throughout the summer, students continue to meet once a week as a group for training sessions to work on their end-of-program poster presentations and communication skills. Whether summer will be online or in person remains to be determined.

Poster Presentation

At the end of the seven-week lab project in August, students will participate in a poster presentation event as an opportunity to communicate their research to a diverse audience of friends, family, mentors, other researchers, and the broader Columbia community.

Student Eligibility

BRAINYAC admits students from select partner programs and schools in upper Manhattan and the south Bronx. Students commit to the program in its entirety from January through August, and those who successfully complete the entire program receive a stipend of $3,500 paid in two installments.

To be eligible for receiving the stipend, students must be either:

- A United States Citizen; or
- A United States Permanent Resident (Green Card Holder)

Students who do not meet these criteria can still participate in all aspects of the program, but may not be eligible to receive a stipend. We will be in contact with such students separately if this is the case.

Program Guidelines

In order to maintain program excellence and a positive experience for our students, we expect students to follow established guidelines:

Absences

- Session absences: Should a student be unable to attend a training session due to illness or injury, it remains the responsibility of the student (and parent/guardian, where applicable) to notify BRAINYAC staff at least one (1) hour prior to the start of the session, where possible. An email should be sent to [redacted]

- Internship absences: Should a student be unable to attend any particular day of their internship due to illness or injury, it remains the responsibility of the student (and parent/guardian, where applicable) to notify their BRAINYAC laboratory mentor and BRAINYAC staff at least one (1) hour prior to the start of their internship schedule. An email should be sent to your mentor's email address and to [redacted]

Tardiness

- Session tardiness: Should a student be tardy to a training session, it remains the responsibility of the student (and parent/guardian, where applicable) to notify BRAINYAC staff at least thirty (30) minutes prior to the start of the session. An email should be sent to [redacted]

- Internship tardiness: Should a student be tardy to any particular day of their internship, it remains the responsibility of the student (and parent/guardian, where applicable) to notify their BRAINYAC mentor and BRAINYAC staff at least thirty (30) minutes prior to the start of their internship schedule. An email should be sent to your mentor's email address and to [redacted]

We understand that the circumstances surrounding COVID-19 have brought up numerous challenges. If for any reason you are absent or tardy, you will not be penalized. The only requirement is that you communicate that to BRAINYAC staff and/or your mentor beforehand.

Dress Code

In the case that students are able to be on site (i.e., at the Zuckerman Institute), students are expected to wear comfortable closed-toed shoes in order to comply with safety regulations in laboratory spaces. When engaging in certain lab work, long hair must be tied back and loose clothing should be secured.

BRAINYAC 2021 Program Schedule

Parent-Student Orientation

Orientation will be held on Zoom.

- **January 23** 12:00 pm to 2:00 pm

Spring Session Dates (January – June)

Training sessions are held select **Saturdays between 9:00 am and 11:00 am** using Zoom, Google Classroom, Classcraft, and other online learning tools. Some out of class work will be necessary.

- **January 30** Session 1
- **February 6** Session 2
- **February 27** Session 3
- **March 6** Session 4
- **March 13** Session 5
- **March 20** Session 6
- **April 10** Session 7
- **April 17** Session 8
- **April 24** Hold for catch-up day
- **May 1** Session 9
- **May 8** Session 10
- **May 15** Session 11

Summer Session and Lab Internship dates (July – August)

Summer internship hours are **Monday through Friday, from 9:00 am to 5:00 pm**, in the students' respective host labs.

Training sessions run on **Thursday mornings during the summer from 9:00 am to 11:00 am**. Whether summer will be online or in person remains to be determined.

Labs may be located at the Zuckerman Institute in the Jerome L. Greene Science Center, on Columbia University's Morningside Campus, or at Columbia University Irving Medical Center.

- **Early June** *Only if we are on site* - Lab/campus tour, ID acquisition (Time & Date TBD)

- **July 1** Orientation & Safety Training (Time TBD)
- **July 5** First day of lab internships
- **July 8** Session 1
- **July 15** Session 2
- **July 22** Session 3
- **July 29** Session 4
- **August 5** Session 5
- **August 12** Session 6
- **August 19** Session 7 (optional)
- **August 19** Final Poster Presentation (2:00 pm to 4:00 pm)
- **August 20** Last day of the program (Celebration TBD)

- **Late August** American Museum of Natural History (AMNH) Consortium Summer Student Presentation Event (to be confirmed; Time & Date TBD)

Please be aware that the program schedule is subject to change. Any changes to the schedule will be promptly communicated.

Important Information & Forms

On the following pages, you will find important information and forms.

Using this checklist, please read, complete, and sign these forms before Orientation (January 23rd, 2021). Forms in this checklist marked with an asterisk (*) are required.

If completing them online, please use DocuSign (instructions will be emailed to you) or paste a picture of your signature onto the forms and email them to [redacted] If completing the paper forms, please mail them back to [redacted] Upon request, copies of signed documents may be mailed to you after the orientation.

BRAINYAC – Information Manual

NYC Science Research Mentoring Consortium – Welcome Letter

Pinkerton Foundation – Welcome Letter

☐ BRAINYAC Program Contractual Agreement *

- [ ] Parent/Guardian Information and Agreement *
- [ ] Columbia University Photo Release Agreement *
- [ ] AMNH Photo Permission & Release Form *
- [ ] W-9 Form *

Guidelines for Short-Term Visitors in Research Related and Clinical Activities

- [ ] Minor Visitors Parental Consent Form *
- [ ] Columbia Confidentiality Agreement *

BRAINYAC Research Study – Letter to Parents

- [ ] Assent Form for Student
- [ ] Consent Form for Parent/Guardian

NYC Science Research Mentoring Consortium

Welcome Letter

Dear student,

As a participant in the BRAINYAC program, you may not realize that you are part of a bigger community of high school science researchers. BRAINYAC is a member of the NYC Science Research Mentoring Consortium, coordinated through the American Museum of Natural History. All the students in Consortium programs - more than 300 a year at 20 sites around the city! - do exactly what you are doing: taking classes to prepare for your research experience, and working with a mentor on an authentic research project.

The programs in the NYC Science Research Mentoring Consortium are excited to help you build your network and continue learning as you dive into science research. There are student events that will be happening throughout the year, including opportunities to meet and present your research to other high school students. Be sure to read the emails from your program's staff, even after your research experience is over!

You are also part of another community - the Pinkerton Science Scholars. There is another letter included with this packet that explains more, but know this: Pinkerton Science Scholar is something you can list on your college applications and resume. You are part of a select group of students chosen for a particular type of research opportunity, and the Pinkerton Foundation has been instrumental in supporting these programs and students like you!

We encourage you to stay in touch with the Consortium on social media - see what students in other programs are doing in their courses and research experiences, be the first to know about upcoming Consortium and other science-related events for high school students, and network with other high school science researchers!

Website: http://www.studentresearchnyc.org
Facebook: www.facebook.com/nycsrmc
Twitter: @nycsrmc
Instagram: nycsrmc
LinkedIn: https://www.linkedin.com/company/nyc-science-research-mentoring-consortium

Sincerely,

NYC Science Research Mentoring Consortium Team

The Pinkerton Foundation

Dear student,

Congratulations on your acceptance to the BRAINYAC program. This program is part of a consortium of New York City-based institutions that provides research opportunities for high school students who might not otherwise have the chance to do authentic scientific research. The Pinkerton Foundation is a proud funder of the consortium and its member programs. Upon your successful completion of the research experience outlined below, you will join the ranks of a select group of New York City high school science researchers and become a Pinkerton Science Scholar.

A successful Pinkerton Science Scholar has participated in a program where they have completed:

- At least 70 hours of preparatory coursework that meets or exceeds the standards for high school science courses.
- An authentic science research project, mentored closely by the scientist conducting the research, for approximately 100 hours.
- A culminating project including the development and presentation of her or his research.
- Research in and reading of scientific journals and presentations to develop fluency in science communications.
- Workshops on academic guidance and career exposure for students on a pathway to a STEM career.

As you begin your program, know that The Pinkerton Foundation is invested in your success. Becoming a Pinkerton Science Scholar is a noteworthy accomplishment, and we encourage you to include this recognition in your college applications and resume. Not every student in New York City commits to putting in the time and hard work to complete the program's rigorous requirements. And you can be justifiably proud of this achievement.

I look forward to hearing that you have completed your science research program successfully and to formally conferring your designation as a Pinkerton Science Scholar.

Sincerely,

Richard M. Smith
President, The Pinkerton Foundation

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

BRAINYAC Program Contractual Agreement

I, _____, agree as a student accepted to Mortimer B. Zuckerman Mind Brain Behavior Institute's Brain Research Apprenticeships in New York at Columbia (BRAINYAC) Program agree to fully participate in the program.

The agreement sets the terms for acceptance into the program.

The student agrees to:

- Abide by BRAINYAC Program Guidelines.
- Attend the training sessions and field trips or events associated with the program and participate fully.
- Fulfill the requirements of the assigned internships.
- Understand that BRAINYAC is part of a larger consortium of science research mentoring programs.
- Assume alumni roles where possible.

The parent/guardian agrees to:

- Support the commitment of the student to the program.
- Support the program's goals and objectives.
- Support BRAINYAC staff in all matters relating to the Program Guidelines

BRAINYAC staff agree to:

- Clearly communicate expectations of the program to the student and parent/guardian.
- Maintain accurate records of the student's performance.
- Maintain availability for interaction, contact, and support for the student

Student Signature: _____ Date: _____

Parent/Guardian Signature: _____ Date: _____

BRAINYAC Staff Signature: _____ Date: _____

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

Parent/Guardian Information and Agreement

Child's Name

Last First Middle Initial

Parent/Guardian Name

Last First Middle Initial

Parent/Guardian Address

Street

City State Zip Code

Parent/Guardian Contact Information

Home Phone Work Phone

Cell Phone Email

Emergency Information

Emergency Contact Name Relationship Phone

Child's Doctor Phone

I agree to allow my child to participate in Mortimer B. Zuckerman Mind Brain Behavior Institute's (ZMBBI's) BRAINYAC program. The program will meet at least three (3) times a month for training sessions, from January to June, and Mondays through Fridays, from July through August, for a research internship mentored by a neuroscientist. I also agree to allow my child to participate in the other components of the program, both online (at home) and on site, including but not limited to activities, workshops, field trips, and alumni roles.

My child will be responsible for their own transportation to and from the program venues. ZMBBI will not be held responsible for any liabilities, losses, or injuries incurred during transportation.

ZMBBI will be photographing the student's activities during the course of the program. By signing this letter, I relinquish all rights to photography taken on the premises and outside the premises for purposes of publicizing ZMBBI (this includes images that are captured online).

In case of accident and in the event that I cannot be located, I give permission to ZMBBI to take my child named above to the hospital and given emergency treatment.

Parent/Guardian Signature Date

COLUMBIA | Zuckerman Institute

MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

Columbia University Photo Release Agreement

The undersigned hereby grants permission to the Trustees of Columbia University in the City of New York ("Columbia") and to Columbia's affiliates or others acting with authority from Columbia, with respect to all photographs, including, but not limited to: still photographs, video tapes, film, digital files, etc. ("Photographs") taken of the undersigned by or on behalf of Columbia. To use, edit and publish, and reuse and republish the Photograph(s) in whole or in part, individually or in conjunction with other Photographs, in any medium, whether now existing or later created, for any purpose, including but not limited to the intended usage set forth above, that Columbia and those acting pursuant to its authority deem appropriate.

This agreement and release shall be binding on me, my heirs, executors and assigns.

Name

Address

Phone

Signature

Parent/Guardian Signature (if undersigned is under 18 years old)

Date

AMERICAN MUSEUM OF NATURAL HISTORY
PERMISSION AND RELEASE

Your child is a participant in the Science Research Mentoring Program (the "Program") at the American Museum of Natural History, and is taking courses at Columbia University as part of the Program. The Museum and Columbia will be filming and/or photographing the students in the Program in order to create a short video and other materials to help others learn about the Program. We would like your permission to film and/or photograph your child for these purposes. Please sign below and return this form to [redacted] at the Museum at [redacted]. You can also call her with any questions at [redacted].

I _____ (parent/guardian's name) hereby grant the American Museum of Natural History (the "Museum") and the Trustees of Columbia University in the City of New York ("Columbia"), and each of their respective licensees, assigns, invitees, and others acting with authority from the Museum and/or Columbia, the absolute and irrevocable right and permission to take videos, sound recordings, and/or photographs (collectively "Recordings") of my child (insert name)_____ .

I acknowledge the Museum will own the copyright to the Recordings, and agree not to make any claim to or challenge the rights of the Museum in the Recordings. In addition, the Museum and Columbia reserve the right to use, edit, alter, publish, broadcast and sublicense the Recordings for any educational or promotional purpose whatsoever, including but not limited to use on their web sites and social media sites, and those of the Science Research Mentoring Consortium, and in all forms of media, worldwide in perpetuity, without further notice or compensation, and, if I have given them permission to do so below, to use my child's name in connection therewith.

I, for and on behalf of my child, hereby release and discharge the Museum, Columbia, and each of their licensees, assigns, invitees, and others acting with authority from the Museum and/or Columbia from any and all claims and demands arising out of or in connection with the use of the Recordings, whether by the Museum, Columbia, or another party, including without limitation any and all claims for libel or invasion of privacy.

This Permission and Release is a legally binding agreement and will be construed broadly to provide a release and waiver to the maximum extent permissible under applicable law. Any provisions found to be void or unenforceable shall be modified to the minimum extent necessary to make them enforceable, or if such modification is not possible, then severed from this agreement, and shall not affect the validity or enforceability of any other provisions.

This Permission and Release shall be governed by the laws of New York and the United States of America. I hereby submit to the exclusive jurisdiction of the courts of New York and waive any objection to venue with respect to actions.

I have read, fully understand, and agree to the foregoing.

Print Child's Name:

Parent or Guardian signature:

Print Parent or Guardian name:

Date:

Additionally, I _____(parent/guardian's name) hereby grant the American Museum of Natural History and the Trustees of Columbia University in the City of New York, and their respective licensees, affiliates, assigns and others acting with their authority, the absolute and irrevocable right and permission to use my child's name in connection with the Recordings.

Parent or Guardian signature Date

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

		–							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	**Signature of U.S. person** ►	**Date** ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

June 23, 2014*

GUIDELINES FOR SHORT-TERM VISITORS IN RESEARCH-RELATED AND CLINICAL ACTIVITIES[1]

Introduction:

Columbia University ("University") benefits from the presence of many visitors who come to the University for limited periods of time to receive research training or observe research activities and, at the Columbia University Medical Center ("CUMC"), to train or observe in the context of its clinical programs. In many cases, such visitors are appointed as officers of research or instruction or designated as visiting scholars or visiting scientists, as set forth in the Columbia University *Faculty Handbook* (see Chapters III, IV and VIII).[2] In a few exceptions, short-term visitors have no appointment, formal affiliation, or other designation with the University ("Short-Term Visitors"). Short-Term Visitors may include high school students, visiting undergraduates, post-baccalaureates, and other observers (who observe, but do not practice, research or clinical techniques or processes) or trainees (who receive training in research or clinical techniques or processes, including practice with appropriate supervision).

Short-Term Visitors may not be compensated. For example, high school students, such as Intel Science Talent scholars, may participate in laboratory activities as part of an educational/mentoring program sponsored by their school or other educational organization in conjunction with the University. However, such students may not be compensated. In some special instances, with authorization, visitors may receive a sponsored internship stipend, such as the National Institutes of Health Supplements Providing Summer Research Experiences for Students and Science Educators.

Except in unusual circumstances, Short-Term Visitors may not remain at the University for longer than three months without an appointment as an officer of research or the designation of visiting scholar or visiting scientist.

While the presence of visitors promotes the mission of the University, we have an obligation to ensure that their activities are conducted in a safe, professional and responsible manner. These Guidelines are designed to achieve that end. Nothing in them should be interpreted to change existing University policies on the appointment of officers of research and instruction and the designation of visiting scholars and visiting scientists. All visitors are subject to University policies and procedures, as well as applicable federal, state and local laws that may apply to their activities.

Visitors may not perform work that would otherwise be performed by University employees and their services may not be considered compensable work. Visitors who do work that is of benefit

[1] These Guidelines are University-wide. CUMC has adopted these Visitor Guidelines with respect to clinical activities as well as research.

[2] As set forth in the *Faculty Handbook*, anyone participating in collaborative research with a Columbia researcher must receive an appointment as an officer of research or instruction. By contrast, visitors who come to Columbia to conduct their own research or scholarship are designated visiting scientists or visiting scholars.

*Originally issued Mar. 23, 2006, rev'd May 23, 2006 and June 29, 2009.

to the University and that otherwise would be performed by employees of the University may be considered entitled to wages by the U.S. or New York State Department of Labor.

Guidelines:

The University has well-established procedures for making appointments as officers of research and instruction or designating individuals as visiting scholars and visiting scientists. Questions about whether someone should receive an appointment should be directed to the University's Associate Provost for Academic Appointments or at CUMC, to the Director of the Office of Faculty Affairs. For CUMC, the International Affairs Office is responsible for designating visiting scholars and visiting scientists (including both international and U.S. individuals). For the rest of the University, the Associate Provost/Director of the Office of International Students and Scholars is responsible for these designations.

It is the responsibility of sponsoring investigators and departmental administrators to ensure that all visitors: (1) have received the necessary training and/or approvals in the following areas; and (2) comply with all relevant University rules and policies during their stay.

Prior to beginning any assignment, all CUMC visitors who are subject to Joint Commission mandates must comply with the CUMC's drug screening/background check guidelines as well as the medical surveillance protocols.[3] Such visitors may also be required to fulfill additional requirements under New York Presbyterian Hospital (NYP) policies and procedures.

A. Environmental Health and Safety; Radiation Safety

All visitors must attend the applicable Environmental Health and Safety training sessions. Individuals may identify safety training through the Research Compliance Training Finder, referenced above. Department administrators and principal investigators must make visitors aware of basic institutional safety policies and procedures that are applicable to regular employees. Visitors training or observing in laboratories must read the University's Laboratory Safety and Chemical Hygiene Plan, available at http://ehs.columbia.edu/Policy1.1.html, as well as the host laboratory's Laboratory Assessment Tool and Chemical Hygiene Plan (LATCH), available in the laboratory.

Prior to undertaking laboratory activities, visitors must attend Laboratory Safety, Chemical Hygiene and Hazardous Waste Management training and, if applicable, Formaldehyde/Xylene, Biological Safety/Bloodborne Pathogen, Laser and/or Radiation Safety training.

The principal investigator or the visitor's sponsor, or his/her designee, will provide task-specific training in handling hazardous materials:

- Visitors with no prior experience may not handle hazardous materials until they can demonstrate technical proficiency obtained through initial work with non-hazardous materials. (e.g., use of water to demonstrate and teach dilution techniques at the outset of activities). A progression of activities will be assigned as techniques are learned and proficiency developed to the satisfaction of the principal investigator or the visitor's sponsor.

- For those with prior experience in handling hazardous materials, the principal investigator or the visitor's sponsor, or his/her designee, will assess the level of competency and provide further training as needed if a progression of work activities is required.

Visitors may not perform any spill clean-up activities other than those necessary for the immediate protection of themselves and others.

The involvement of visitors in the handling of hazardous waste is limited to placing the waste in designated containers; they may not be involved with labeling, identification or storage of the waste. Those are responsibilities of trained laboratory staff members.

Visitors who may be exposed to radioactive material or ionizing radiation must contact the Office of Environmental Health and Safety to enroll in the dosimetry program that monitors radiation exposure.

B. Privacy

No visitor may have access to patient records or protected health information without completing the University's general HIPAA training. This includes access to electronic clinical information, hard copy records, or protected health information in any other format. To register for general HIPAA training, send an email to HIPAA@columbia.edu.

All CUMC visitors must complete an institutional Confidentiality Agreement, attached at the end of these Guidelines.

C. Medical Surveillance

Visitors at CUMC who may be present in patient care settings are subject to the University's Medical Surveillance Policies and Procedures through Workforce Health and Safety. If Visitors will come into contact with patients at NYP, then the visitor is subject to the NYPH Medical Clearance process under their Policies and Procedures. Any specific questions or concerns regarding the CUMC Medical Surveillance process must be handled with CUMC HR and they will work with Workforce Health and Safety to address concerns and review special circumstances.

[3] The Joint Commission requirements are applicable to all employees, casuals, students or visitors who have direct patient contact in NYP through the delivery of treatment, the conduct of evaluation, the enrollment of patients in studies, or the collection of data or specimens.

D. Research Subjects

Visitors may not conduct or collaborate on human subjects research without an appointment as an officer of research or instruction. They must be added to the relevant Institutional Review Board protocol for prior approval of the University's Institutional Review Board, and must complete all applicable training, including but not limited to on-line training in human subjects protection and both general HIPAA training (see Section B) and on-line HIPAA Training for Researchers (available in Rascal).

Visitors may not participate in activities that directly involve vertebrate research animals without the prior approval of the University's Institutional Animal Care and Use Committee. The principal investigator is required to include the names, qualifications and activities of all visitors in his/her animal protocol form, together with a description of the activities that the visitors will perform on animals. Prior to undertaking such activities, visitors must attend the Institutional Animal Care and Use Committee regulatory lecture, take any required web-based species-specific training courses, and/or attend any required wet lab training offered by the Institute of Comparative Medicine. In addition, they are subject to the University's Medical Surveillance Policies and Procedures for the applicable campus.

E. Accidents or Emergencies

In the event of an accident or emergency, the same procedures used for employees should be used for visitors. The individual should be treated (a) for the Morningside campus, at the Student Health Services or the Emergency Room at St. Luke's Hospital, (b) for Lamont, at the Emergency Room at Nyack Hospital, (c) for Nevis, at the Emergency Room at Dobbs Ferry Hospital, or (d) at CUMC, Workforce Health and Safety or Emergency Room at NYP. In each case, the appropriate Human Resources office should be notified and a Departmental Accident Report Form should be completed and sent to University Risk Management..

F. Miscellaneous

The University reserves the right to withdraw any visitor privileges and remove a visitor from campus without prior notice.

No Short-Term Visitor will be allowed on any ship owned or operated by the University.

G. Provisions for Short-term Visitors Who Are Minors or Who Work with Minors

Research participants under the age of eighteen are "minors" for purposes of New York State law. We ask that you familiarize yourself with and follow Columbia's policy on the Protection of Minors. For more information, please visit the Protection of Minors website at http://www.compliance.columbia.edu/minors.html.

Where minors participate in research-related activities in University laboratories (as opposed to being present during a tour for strictly observational purposes), additional requirements apply:

- The attached Parental Consent Form must be filled out and signed by a parent or guardian of the minor visitor prior to observing or participating in any research related activities.
- No one under the age of fourteen is allowed in any University laboratory (except if present on an organized tour or field trip for strictly observational purposes, provided hazards are minimized).
- Minors between ages 14 and 18 may participate in certain research-related activities in a laboratory, so long as they have completed applicable safety training and they are directly supervised by the principal investigator, sponsor or his or her designee.
- No one under the age of 18 is allowed to be alone in a laboratory.
- No one under the age of 18 may handle human blood, human cell lines or any other material defined as "other potentially infectious materials" by OSHA (Bloodborne Pathogens Standard 29 CFR 1910.1030).
- No one under the age of 18 may work directly with vertebrate animals or enter Institute for Comparative Medicine facilities where such animals are housed.

Questions relating to this Policy should be directed to the Associate Provost for Academic Appointments (for non-CUMC departments) or the Director of Faculty Affairs (for CUMC).

COLUMBIA UNIVERSITY

Office of Human Resources

Minor Visitors Parental Consent Form

Required for Visitors under 18 years of age

My child, _____, has my permission to participate as a visitor in the _____ program at Columbia University under the supervision of _____. I understand that, depending on the kind of project being conducted, my child may be required to participate in environmental health and safety programs and/or medical surveillance may be required for visitors working in research, clinical and educational programs at the University.
PLEASE NOTE: For some Visitors at Columbia University Medical Center, a drug screening may be required under the Joint Commission requirements. To the extent that there is a positive drug screening result, both the minor and the parent will be notified. I understand that there may be risk of injury to my child and I agree that I will not hold the Trustees of Columbia University in the City of New York, and its officers, faculty, students, employees, and agents, responsible for any injury that my child may incur at the University or while traveling to and from the University.

Columbia University is committed to promoting a safe environment for minors who participate in our programs and activities. We have taken a number of important steps to establish safeguards for your child. You can read the University's policy and access other helpful resources at http://compliance.columbia.edu/minors.html.

My child is covered by the following health care plan:

_____ _____ _____
Insurance Carrier Policy/Membership Number

_____ _____
Name of Insured Name of Employer

_____ _____
Signature of Parent or Guardian Date

_____ _____
Signature of Witness Date

Print the full name and address of a person who can be reached between the hours of 9:00 a.m. and 5:00 p.m. in case of emergency.

_____ _____
Name Relationship

_____ _____
Address Phone Number

Columbia University Medical Center
Confidentiality Agreement

As a faculty member, employee, student, affiliate, visitor or volunteer at Columbia University Medical Center (CUMC) you may have access to what this Agreement refers to as "Confidential Information." The purpose of this Agreement is to help you understand your duty regarding Confidential Information.

"Confidential information" includes information about patients, employees, or students or financial or other business or academic information relating to Columbia University Medical Center. You may learn or have access to confidential information through CUMC=computer systems (which include but are not limited to the clinical, human resources and financial information systems) NewYork-Presbyterian (NYP) Hospital computer systems, through interactions with CUMC students, staff or other faculty, or through your treatment of CUMC patients.

As an individual having access to confidential information, you are required to conduct yourself in strict conformance with applicable laws and CUMC policies governing confidential information. As a condition of your relationship to CUMC, you are required to acknowledge and abide by these duties. A violation of any of these duties will subject you to discipline, which might include, but is not limited to, dismissal of your relationship (faculty appointment, employment, student, consulting, etc.) with CUMC, in addition to legal and/or financial liability.

I understand that I may have access to electronic, printed, or spoken confidential information, which may include, but is not limited to, information relating to:

Patients - including Protected Heath Information (PHI), records, conversations, patient financial information, etc.; Employees - including salaries, employment records, disciplinary actions, etc.;
Students - including enrollment, grade and disciplinary information;
Research - including PHI created, collected, or used for research purposes;
CUMC - including but not limited to financial and statistical records, strategic plans, internal reports, memos, peer review information, communications, proprietary computer programs, source code, proprietary technology, etc.;
Third party information - including computer programs, client and vendor proprietary information, source code, proprietary technology, etc.;
PHI and Personal Identifying Information (PII) used in other contexts.

Accordingly, as a condition of, and in consideration of my access to confidential information, I promise that:

1. I will use confidential information only as needed by me to perform my legitimate duties as defined by my relationship (faculty, employment, student, visitor, consulting, etc.) with CUMC.

I will not access confidential information which I have no legitimate need to know.
I will not in any way divulge copy, release, alter, revise, or destroy any confidential information except as properly authorized within the scope of my relationship with CUMC.
I will not misuse or carelessly handle confidential information.
I understand that it is my responsibility to assure that confidential information in my possession is maintained in a physically secure environment.

2. I will safeguard and will not disclose to any other person my access code (password) or any other authorization code that allows me access to confidential information. I will be responsible for misuse or wrongful disclosure of confidential information that may arise from sharing access codes with another person and/or for failure appropriately to safeguard my access code or other authorization to access confidential information.

I will log off computer systems after use.
I will not log on to a system or access confidential information to allow another person access to that information or to use that system.

I will report any suspicion or knowledge that my access code, authorization, or any confidential information has been misused or disclosed without CUMC authorization.

I will not download or transfer computer files containing confidential information to any non-NYP/CUMC authorized computer, data storage device, portable device, telephone, or other device capable of storing digitized data.

I will only print documents containing confidential information in a physically secure environment, will not allow other persons' access to printed confidential information, will store all printed confidential information in a physically secure environment, and will destroy all printed confidential information when my legitimate need for that information ends in a way that protects the confidentiality of the information.

3. I will follow CUMC policies and procedures regarding the use of any portable devices that may contain confidential information including the use of encryption or other equivalent method of protection.

4. I acknowledge my obligation to report to the CUMC Privacy Officer any practice by another person that violates these obligations or puts CUMC, its personnel, or its patients at risk of a disclosure of confidential information.

5. I will only use my Columbia email account to send and receive message that may include confidential information and will not use email to send confidential information to other parties outside of Columbia/NYP without protection to prevent unauthorized access.

6. If I am involved in research, any research utilizing individually identifiable protected health information will be performed in accordance with federal, state, local and Institutional Review Board policies.

7. If I no longer need confidential information, I will dispose in a way that assures others cannot use or disclose it including following the Information Technology policy for disposal of printed confidential information or electronic equipment that may contain confidential information.

8. I understand that my communication using the Columbia University information network is not private and the content of my communication may be monitored to protect the confidentiality and security of the data.

9. I understand that my obligation under this Agreement will continue after termination of my relationship with CUMC.

10. I understand that I have no right or ownership interest in any confidential information referred to in this Agreement. CUMC may at any time revoke my access code, or access to confidential information. At all times during my relationship, I will act in the best interests of CUMC.

_____	_____
Name (print)	Date
_____	_____
Name (sign)	Department

A copy of this Agreement should be kept in the Department

Register now!

BRAINYAC Final Poster Presentation & Graduation

August 19, 2021
2:00 - 4:00 pm EDT

Online event – RSVP free at bit.ly/brainyac2021presentation

COLUMBIA | Zuckerman Institute
MORTIMER B. ZUCKERMAN MIND BRAIN BEHAVIOR INSTITUTE

ΙΣΝ/SNF ΙΔΡΥΜΑ ΣΤΑΥΡΟΣ ΝΙΑΡΧΟΣ
STAVROS NIARCHOS FOUNDATION

The Pinkerton Foundation

Breakout Rooms: Review & note your room # choice

1. Psychology

[redacted]
PI: Baldassano)

[redacted]
PI: Shohamy)

[redacted]
PI: Tottenham)

[redacted]
PI: Tottenham)

[redacted]
PI: Tottenham)

2. Biology

[redacted]
PI: Dumitriu)

[redacted]
PI: Lomvardas)

[redacted]
PI: Losonczy)

[redacted]
PI: Losonczy & Gogos)

3. Computation

[redacted]
PI: Qian)

[redacted]
PI: Wolpert)

[redacted]
PI: Qian)

[redacted]
PI: Mesgarani)

[redacted]
PI: Qian)

4. Science & Society

[redacted]
PI: Jacobs)

[redacted]
PI: Jacobs)

[redacted]
PI: Ansorge)

[redacted]
PI: Morrison)

[redacted]
PI: Morrison)

Annual Report: Youth Internships - Columbia University Facilities and Operations

State Submission Annual Reporting Period: **October 2021 - September 2022**

The Columbia University Facilities and Operations (CUFO) Summer Internship Program is a 6-week long paid internship for high school students who are looking to gain real work experience before graduation. Previous work experience is a plus, but is not required. Interns must be at least 16 years old at the time of the intership and are paid New York State minimum wage.

This year, CUFO participated in the Career and Technical Workplace Challenge, hosted by Grant Associates, which is designed to have students engage in career preparation activities that provide them with exposure to:

- Solving a real-world problem or a challenge issued by an employer
- Working as a team to identify possible solutions
- Delivering a presentation on their solutions to the employer

Columbia as the employer committed to:

- Designing a challenge
- Connecting with students 1 time per week for about 1-2 hours to offer guidance
- To be available for the final presentation and offer feedback

This internship program for summer 2021 began on July 12, 2021 and ended on August 20, 2021. Due to COVID-19, the internships were remote for the interns who attend Urban Assembly Gateway School for Technology or at their high school for the interns who attend Bronx Design and Construction Academy.

There were a total 66 interns who participated in the program, with 31 residing in the defined local area. The students were broken-up into 3 groups and partipated in weekly group meetings. Along with discussing the project they were working on, they participated in enrichment activities including a variety of ice-breakers, Remote Presentation Skills training, and various guests in related fields who spoke to the interns about their career paths. The program utilized Zoom to conduct weekly meetings and mentors were available via email to answer any questions. On their last day, the interns presented their findings using Zoom.

** Local refers to those students whose primary resident is located within one of the following 17 zip codes: 10025, 10026, 10027, 10029, 10030, 10031, 10032, 10033, 10034, 10035, 10037, 10039, 10040, 10455, 10451, 10454, 10474.*

	Intern Name	Zip Code	High School
1.	[redacted]	10027	Bronx Design and Construction Academy
2.	[redacted]	10036	Bronx Design and Construction Academy
3.	[redacted]	10451	Bronx Design and Construction Academy
4.	[redacted]	10451	Bronx Design and Construction Academy
5.	[redacted]	10452	Bronx Design and Construction Academy
6.	[redacted]	10454	Bronx Design and Construction Academy
7.	[redacted]	10455	Bronx Design and Construction Academy
8.	[redacted]	10457	Bronx Design and Construction Academy
9.	[redacted]	10458	Bronx Design and Construction Academy
10.	[redacted]	10466	Bronx Design and Construction Academy
11.	[redacted]	10470	Bronx Design and Construction Academy
12.	[redacted]	10473	Bronx Design and Construction Academy
13.	[redacted]	10473	Bronx Design and Construction Academy
14.	[redacted]	11213	Science Skills Center High School for Science, Technology and the Creative A
15.	[redacted]	10009	Urban Assembly Gateway School for Technology
16.	[redacted]	10019	Urban Assembly Gateway School for Technology
17.	[redacted]	10025	Urban Assembly Gateway School for Technology
18.	[redacted]	10025	Urban Assembly Gateway School for Technology
19.	[redacted]	10025	Urban Assembly Gateway School for Technology

20.	[redacted]	10026	Urban Assembly Gateway School for Technology
21.	[redacted]	10026	Urban Assembly Gateway School for Technology
22.	[redacted]	10027	Urban Assembly Gateway School for Technology
23.	[redacted]	10027	Urban Assembly Gateway School for Technology
24.	[redacted]	10029	Urban Assembly Gateway School for Technology
25.	[redacted]	10029	Urban Assembly Gateway School for Technology
26.	[redacted]	10029	Urban Assembly Gateway School for Technology
27.	[redacted]	10030	Urban Assembly Gateway School for Technology
28.	[redacted]	10031	Urban Assembly Gateway School for Technology
29.	[redacted]	10031	Urban Assembly Gateway School for Technology
30.	[redacted]	10032	Urban Assembly Gateway School for Technology
31.	[redacted]	10032	Urban Assembly Gateway School for Technology
32.	[redacted]	10032	Urban Assembly Gateway School for Technology
33.	[redacted]	10032	Urban Assembly Gateway School for Technology
34.	[redacted]	10032	Urban Assembly Gateway School for Technology
35.	[redacted]	10032	Urban Assembly Gateway School for Technology
36.	[redacted]	10033	Urban Assembly Gateway School for Technology
37.	[redacted]	10034	Urban Assembly Gateway School for Technology
38.	[redacted]	10034	Urban Assembly Gateway School for Technology
39.	[redacted]	10034	Urban Assembly Gateway School for Technology
40.	[redacted]	10035	Urban Assembly Gateway School for Technology
41.	[redacted]	10035	Urban Assembly Gateway School for Technology
42.	[redacted]	10036	Urban Assembly Gateway School for Technology
43.	[redacted]	10037	Urban Assembly Gateway School for Technology
44.	[redacted]	10044	Urban Assembly Gateway School for Technology
45.	[redacted]	10044	Urban Assembly Gateway School for Technology
46.	[redacted]	10451	Urban Assembly Gateway School for Technology
47.	[redacted]	10452	Urban Assembly Gateway School for Technology
48.	[redacted]	10453	Urban Assembly Gateway School for Technology
49.	[redacted]	10456	Urban Assembly Gateway School for Technology
50.	[redacted]	10458	Urban Assembly Gateway School for Technology
51.	[redacted]	10467	Urban Assembly Gateway School for Technology
52.	[redacted]	11106	Urban Assembly Gateway School for Technology
53.	[redacted]	11206	Urban Assembly Gateway School for Technology
54.	[redacted]	11216	Urban Assembly Gateway School for Technology
55.	[redacted]	11219	Urban Assembly Gateway School for Technology
56.	[redacted]	11233	Urban Assembly Gateway School for Technology
57.	[redacted]	11236	Urban Assembly Gateway School for Technology
58.	[redacted]	11385	Urban Assembly Gateway School for Technology
59.	[redacted]	11416	Urban Assembly Gateway School for Technology
60.	[redacted]	11418	Urban Assembly Gateway School for Technology
61.	[redacted]	11421	Urban Assembly Gateway School for Technology
62.	[redacted]	11435	Urban Assembly Gateway School for Technology
63.	[redacted]	11436	Urban Assembly Gateway School for Technology
64.	[redacted]	11691	Urban Assembly Gateway School for Technology
65.	[redacted]	11224	William E. Grady Career and Technical Education High School
66.	[redacted]	11224	William E. Grady Career and Technical Education High School

Additional Supporting Documentation

• CTE Remote Workplace Challenge Host Forms

THE NEW YORK CITY DEPARTMENT OF EDUCATION
Office of Postsecondary Readiness, Student Internship Management Services
WBLBOX@schools.nyc.gov / 718.935.5820

Career and Technical Education (CTE) – Remote Workplace Challenge Host Form

Thank you for your interest in working with our career and technical education students.

General Information

Company/Organization Name	Columbia University Facilities & Operations
Representative	[redacted]
Title	Director, Human Resources
Phone	[redacted]
Email Address	[redacted]
Address (Number & Street)	[redacted]
City, State & Zip Code	New York, NY 10027
Supervisor/Contact (Name/Email) of person who will approve student's timesheets if different from representative above	

What is the industry of your organization?

Advocacy & Human Services ☐	Automotive Transportation ☐	Business, Finance & Prof Serv ☐
Construction & Sustainability ☐	Culinary Arts ☐	Education [x]
Engineering ☐	Government ☐	Healthcare ☐
Hospitality & Tourism ☐	IT Healthcare ☐	IT Software ☐
Law and Law Enforcement ☐	Media and Design ☐	Other: _____

Participant Requirements

Students are required to obtain clearance from the NYC Department of Education's Student Internship Management Services Department (SIMS) before participation. As a representative of the workplace challenge host organization, participating in the NYC Department of Education's CTE Workplace Challenge Program, I agree to abide by the following requirements:

1) Provide a Scope of Work describing the a real-world problem or a challenge.
2) Provide an introduction of the company and the challenge to students participating in the workplace challenge.
3) Check in with the workplace challenge participants once a week (for about an hour) to provide feedback, assess the progress and answer questions
4) Provide feedback on the deliverable. Either a panel or individual can provide the feedback on the final product.

Public Notice of Nondiscrimination

It is the policy of the New York City Department of Education to provide equal educational opportunities without regard to actual or perceived race, color, religion, creed, ethnicity, national origin, alienage, citizenship status, disability, sexual orientation, gender (sex) or weight and to maintain an environment free of harassment on the basis of any of these grounds, including sexual harassment or retaliation.

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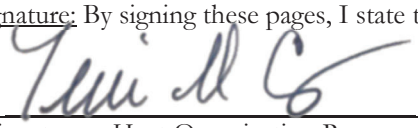
Scope of Work

Project Name:	Impact of COVID-19 on Custodial & Maintenance
General Objective:	The pandemic has drastically changed the custodial and maintenance services. As we begin to reopen, a "new normal" must be created for custodial and maintenance of workspaces.
Project Description:	Develop a plan for documenting the new procedures and guidelines around such services, how to train staff, and how to communicate safety protocols to the occupants of the space.
Specific Deliverables:	Documentation of new processes and procedures, what are the best practices. Develop a program to train staff on the new procedures. Create a communication strategy to inform occupants of safety protocols in place.
Approval Requirements:	
Timeline:	July 12 - August 20
Additional Requirements/ Comments	

Signature: By signing these pages, I state that I have read, understood and agree to the above participant requirements:



July 2, 2021

Signature – Host Organization Representative | Date

[redacted]

Director, HR

Host Organization Representative Name (please print) | Title

The above agreement can be terminated by either the Host Organization to NYCDOE without cause at will.

THE NEW YORK CITY DEPARTMENT OF EDUCATION
Office of Postsecondary Readiness, Student Internship Management Services
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Career and Technical Education (CTE) – Remote Workplace Challenge Host Form

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Email Address	[redacted]
Address (Number & Street)	[redacted]
City, State & Zip Code	New York, NY 10027
Supervisor/Contact (Name/Email) of person who will approve student's timesheets if different from representative above	

What is the industry of your organization?

Advocacy & Human Services ☐	Automotive Transportation ☐	Business, Finance & Prof Serv ☐
Construction & Sustainability ☐	Culinary Arts ☐	Education [x]
Engineering ☐	Government ☐	Healthcare ☐
Hospitality & Tourism ☐	IT Healthcare ☐	IT Software ☐
Law and Law Enforcement ☐	Media and Design ☐	Other: _____

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2) Provide an introduction of the company and the challenge to students participating in the workplace challenge.
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THE NEW YORK CITY DEPARTMENT OF EDUCATION
Office of Postsecondary Readiness, Student Internship Management Services
WBLBOX@schools.nyc.gov / 718.935.5820

Scope of Work

Project Name:	Recruiting Trades Workers in Today's Market
General Objective:	Columbia University Facilities & Operations (CUFO) is committed to having a diverse workforce. We would like the group to focus in creating a recruiting strategy and career plan for trades positions that focuses on diversity, equity, and inclusion.
Project Description:	As the requirements for trades positions evolve from a more manual focus to a technical focus (from wrenches to iPads), we need to change the strategy of both recruiting for positions and developing current staff. The groups should create a strategy for recruiting trades workers with an emphasis on diversity (gender, race, ethnicity, sexual orientation, etc.) along with a career plan to retain staff.
Specific Deliverables:	Recruiting plan - where should we advertise jobs, how do we target qualified applicants, are there trades schools we should build a relationship with, should we hold job fairs - where, when, how do we inform qualified applicants about the job fair. Career/ retention plan - develop a program that creates a career ladder for trades workers. What training should be offered, what steps would lead to a promotional opportunity, what fringe benefits should be offered. What are the best practices to retain staff.
Approval Requirements:	
Timeline:	July 12 - August 20
Additional Requirements/ Comments	

Signature: By signing these pages, I state that I have read, understood and agree to the above participant requirements:

[signature]	7/2/2021
Signature – Host Organization Representative	Date
[redacted]	Director, HR
Host Organization Representative Name (please print)	Title

The above agreement can be terminated by either the Host Organization to NYCDOE without cause at will.

Annual Report: Youth Internships - Engineering the Next Generation

State Submission Annual Reporting Period: **October 2020 - September 2021**

- Application Deadline: **4/30/2021**

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).

With shifts to a virtual model due to COVID-19, the Engineering the Next Generation (ENG) Program ran as a 4-week long intensive summer program at Columbia Engineering for academically competitive high school students during Summer 2021.

Rising high school seniors match with engineering labs and research mentors, and supervised by faculty members. Program components include research, mentoring, college preparation, presentation skills, as well as academic and professional workshops. Students are challenged with high-level academic expectations of both the researchers and undergraduate mentors. This year's program focused on computational research and science communications, with hopes of a possibility for in-person lab shadowing on campus when COVID-19 situations are deemed safe by the university. The program admits from four partner schools; Columbia Secondary School, The High School for Math, Science and Engineering (HSMSE) at the City College of New York, and ELLIS Preparatory Academy, and Bronx Center for Science and Math. Participants must be at least 16 years of age in order to participate and are granted a stipend for their time in the program.

	Intern Name	Zip Code	High School
1.	[redacted]	10032	Columbia Secondary High School for Math, Science & Engineering
2.	[redacted]	10032	Columbia Secondary High School for Math, Science & Engineering
3.	[redacted]	10028	Columbia Secondary High School for Math, Science & Engineering
4.	[redacted]	10456	English Language Learners and International Support Preparatory Academy
5.	[redacted]	10013	Columbia Secondary High School for Math, Science & Engineering
6.	[redacted]	11368	Columbia Secondary High School for Math, Science & Engineering

Additional Supporting Documentation

- ENG 2021 Application Packet
- ENG 2021 Virtual Program Model Details

E.N.G. Summer 2020 Application

Program Description: The E.N.G. program is a 6-week summer research program at Columbia Engineering for academically competitive high school students. Rising high school seniors (i.e. current juniors) will be placed in engineering labs, matched with research mentors, and supervised by Columbia faculty members. The 2020 summer program dates will be from June 29th - August 7th.

Program components include research, mentoring, college preparation, presentation skills, as well as academic and professional development workshops. Possible extensions of the program include continuing research through the following academic year, publication and paper co-authorship, and a letter of recommendation from the research lab's supervising professor.

Eligibility: Students must have completed their junior year of high school by the start of the program to apply. While there is no minimum GPA, students should excel academically overall. Ideally, applicants will have demonstrated an interest and commitment to STEM (for example advanced STEM classes and extracurricular activities). Students must also show strong self-motivation, responsibility, and professionalism. Students will only be awarded a stipend upon successful completion of the program.

Deadline: Applications must be completed and submitted by Friday, April 3, 2020 by 11:59pm EST. Potential finalists for the program will be contacted for an interview prior to admission to the program. Please email engineeringoutreach@columbia.edu if you have any questions or concerns.

Applicant Information

Please provide the following personal information.

First Name:

Last Name:

Preferred Name (Nickname):

Home Address (Include Apt#):

City, State, ZIP:

Email Address:

Phone Number (xxx) xxx-xxxx

Parent/Guardian Information

Please provide the following information on your parent(s) or guardian(s).

Parent/Guardian (1) Full Name:

Email Address:

Phone Number:

Parent/Guardian (2) Full Name:

Email Address:

Phone Number:

Emergency Contact Name:

Phone Number:

School Information

Please provide the following information about your school, school records, and teacher recommendation writer.

Name of School:

Email Address:

You will be asked to upload an unofficial transcript.

Please provide the NAME of one teacher (preferably science or math) who will write a recommendation letter on your behalf. You must ask your teacher to provide the letter; we will follow-up by email to collect this letter:

Please provide this teacher's Email Address:

Extracurricular Information

Please list up to three (3) extracurricular activities in order of importance. Describe your involvement and why each is important to you (100 words max each).

Please make sure to include the following:

- Organization Name
- Your Position/Role
- Number of hours committed per week
- Start date and end date of involvement, or list "present" if ongoing involvement

Extracurricular Activity 1:

Extracurricular Activity 2:

Extracurricular Activity 3:

Essay Questions

Please answer the following essay questions and limit your responses to 300 - 500 words. There are no "right" answers to any of these questions; essays will be judged for creativity, innovation, and your ability to convey your ideas clearly and concisely.

1. Describe a social, personal, or academic challenge that you have faced and how you overcame it.

2a. You are given a box of 1000 marbles of 0.5", 1", and 1.5" diameters.
Design a device that does not use electricity to pick up 100 marbles and sort them into three different containers by size. Please list all materials used in your device, and use no more than 10 items.

2b. You will have an option to upload a drawing of your device if you so choose.

3. Why do you want to participate in E.N.G.? What will the opportunity to conduct research mean to you now and in the future?

E.N.G. Recommendation Letter Confirmation

First Name: Last Name:
Email Address:
School/Affiliation Name:
Position at School/Affiliation?:
Applicant (Student)'s Full Name:
What is your relationship to the applicant?:
How long have you known the applicant?:
Would you describe this applicant as an individual who identifies as traditionally underrepresented in STEM (science, technology, engineering, and mathematics) fields?:

To the best of your knowledge, what technological access does the applicant have at home for remote learning opportunities? (Please check all that apply.)

To the best of your knowledge, does the applicant have stable connection to internet at home for remote learning opportunities?

Please describe the applicant in general, using 4-5 words:

How would you describe the applicant's strengths?:

What are some potential areas of growth of this applicant?:

Please describe any instances in which this applicant has demonstrated interest or motivation for STEM (science, technology, engineering, and mathematics).:

Please describe any additional instances in which this applicant has demonstrated leadership, maturity, or initiative to your knowledge (either in academics, extracurriculars, or outside of school).

ENG is a highly rigorous and immersive laboratory research summer program that requires self-motivation and perseverance. Please briefly provide your reasoning as to why you believe this

applicant would be successful in this program.:

Applicant Ratings

Please rate the applicant on the following characteristics:

- **[Professionalism]:**
- **[Collaboration Skills]:**
- **[Communication Skills]:**
- **[Interpersonal Skills]:**
- **[Maturity]:**
- **[Perseverance]:**
- **[Independence]:**
- **[Academic Ability]:**
- **[Creativity]:**
- **[Curiosity]:**

Is there any other info you would like to share regarding the applicant?:

Thank you for taking the time to complete this recommendation form for [student name]. If you would like to provide a supplemental letter of recommendation or have any additional comments or questions, please feel free to reach out to us at engineeringoutreach@columbia.edu or at [redacted]

ADMIT LETTER:

Subject: E.N.G. 2021 Application Decision

Dear XX,

Congratulations! We are pleased to offer you admission to the Engineering the Next Generation (E.N.G.) program for the Summer of 2021. We chose this year's high school student researchers from an exceptional pool of applicants whose abilities, talents, and backgrounds will enrich your collective experience. We are impressed by your achievements and potential, and look forward to the contributions you'll make as a young researcher in engineering.

Should you accept our offer, you will join a talented group of students also selected from a superbly accomplished pool of candidates who presented highly competitive, deserving, and compelling cases for admission. Successful E.N.G. students will also take their place among a powerful and highly regarded student network. We are confident that your time at Columbia Engineering will be challenging and rewarding.

As you are aware, the E.N.G. program will take place virtually this summer due to the current pandemic situation. High school research participants will be mentored virtually by engineering researchers in an online setting, with projects focusing on computational research and science communications. We will also provide in-person shadowing opportunities with lab groups, hopefully in the fall semester, although dates are to be determined. The dates of the program are as follows:

- Weeks 1-4, Summer E.N.G. Program: Monday July 6 through Friday July 31
- Weeks 5-6, Fall E.N.G. Program: Exact dates TBD

Participants will be awarded a $1000 stipend upon completion of the four weeks during the summer, and an additional $200 after the two weeks in the fall.

Kindly respond to this offer of admission by responding directly to this email with your decision. If you do not accept this offer, we would like to extend an offer to another student, so your prompt response is most appreciated. **You have until Wednesday, June 9th, 2021 to make your decision.**

Your outstanding academic record and dedication to STEM, and our belief in you, make you a great fit for the E.N.G. program. Feel free to contact us at engineeringoutreach@columbia.edu if you have any questions, and we look forward to having you join us this summer!

Best,

Outreach Programs at Columbia Engineering
Email: engineeringoutreach@columbia.edu

Website: outreach.engineering.columbia.edu

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The Fu Foundation School of Engineering and Applied Science

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E.N.G. Summer 2021 Virtual Program Model

Program Design

Students participated in the ENG 2021 program, focusing on computer science, data visualization, and imaging projects. Students participated in an undergraduate admissions webinar as well as an introduction to research seminar. Aside from these cohort-wide events, students' experiences varied based on the projects their mentors assigned to them. This summer's program took place over the course of four weeks (July 6-31).

Virtual platforms used

Zoom (video calls for program meetings, lab meetings, workshops, and seminars)

Slack (day-to-day communications, between all students, program staff, and mentors)

Number of students

There were six (6) students in the 2021 cohort.

Outreach/recruitment strategy

Recruitment of High School Student Program Participants: Personnel at partnership schools (school counselors, teachers) were contacted to recommend qualifying students to apply for the program. Partnership schools include Columbia Secondary School, ELLIS Preparatory Academy, High School for Science Mathematics and Engineering, and Bronx Center for Science and Mathematics.

Recruitment of Columbia Engineering Mentors and Facilitators: Columbia Engineering faculty who have previously hosted students and who have engaged in additional outreach efforts were contacted; these principal investigators then coordinated within their lab groups to establish graduate student mentors for hosting the high school participants. Facilitators for the program workshops and seminars were coordinated with volunteers who have facilitated similar sessions before in the past; some workshops were offered through other programs, in which ENG students were also welcomed to attend.

Stipend/payment plan

$1000 after completion of four-week summer program