

**Manhattanville in West Harlem Implementation Plan Report
October 15, 2019 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 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. Following this October 2019 report all future annual reports will no longer include the original language and will contain only the modified language.

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 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

**Manhattanville in West Harlem Implementation Plan Report
October 15, 2019 Submission**

Columbia University's Implementation Plan and all supporting documentation are made available on the Community Services Webpage at <http://manhattanville.columbia.edu/community/benefits-and-amenities>.

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

Please check to verify EOC items submitted for review.

1. Annual report

Monitor's Notes / Comments:

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 2018 - September 2019**

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.

Internship Program	Total	# of Local Students	# of CSS Students
BRAINYAC	12	12	10
CUFO	14	14	0
ENG	12	4	6
TOTAL:	38	30	16

Contents of Report

- BRAINYAC Annual Report
- BRAINYAC Brochure
- BRAINYAC Partner Program Recruitment Letter
- BRAINYAC Information Session Invitation
- BRAINYAC 2019 Application Packet
- BRAINYAC 2019 Poster Presentation Program
- Columbia University Facilities and Operations (CUFO) Summer Internship Annual Report
- Columbia University Facilities and Operations (CUFO) Summer Internship Flyer
- Columbia University Facilities and Operations (CUFO) Summer Internship Application
- Columbia University Facilities and Operations (CUFO) Summer Internship Friday Schedule
- Engineering the Next Generation (ENG) Annual Report
- Engineering the Next Generation (ENG) Outreach and Application Process
- Engineering the Next Generation (ENG) 2019 Application Packet

Annual Report: Youth Internships - BRAINYAC

State Submission Annual Reporting Period: **October 2018 - September 2019**

- Information Session Date: **October 13, 2018**
- Application Deadline: **November 13, 2018**

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.

	Intern Name	Zip Code	High School
1.		10039	New Heights Academy Charter School
2.		10032	Columbia Secondary School
3.		10027	Columbia Secondary School
4.		10039	Leman Manhattan Preparatory
5.		10025	Columbia Secondary School
6.		10025	Columbia Secondary School
7.		10031	Columbia Secondary School
8.		10032	Columbia Secondary School
9.		10035	Columbia Secondary School
10.		10034	Columbia Secondary School
11.		10035	Columbia Secondary School
12.		10040	Columbia Secondary School

Additional Supporting Documentation

- BRAINYAC Brochure
- BRAINYAC Partner Program Recruitment Letter
- BRAINYAC Information Session Invitation
- BRAINYAC 2019 Application Packet
- BRAINYAC 2019 Poster Presentation Program

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.

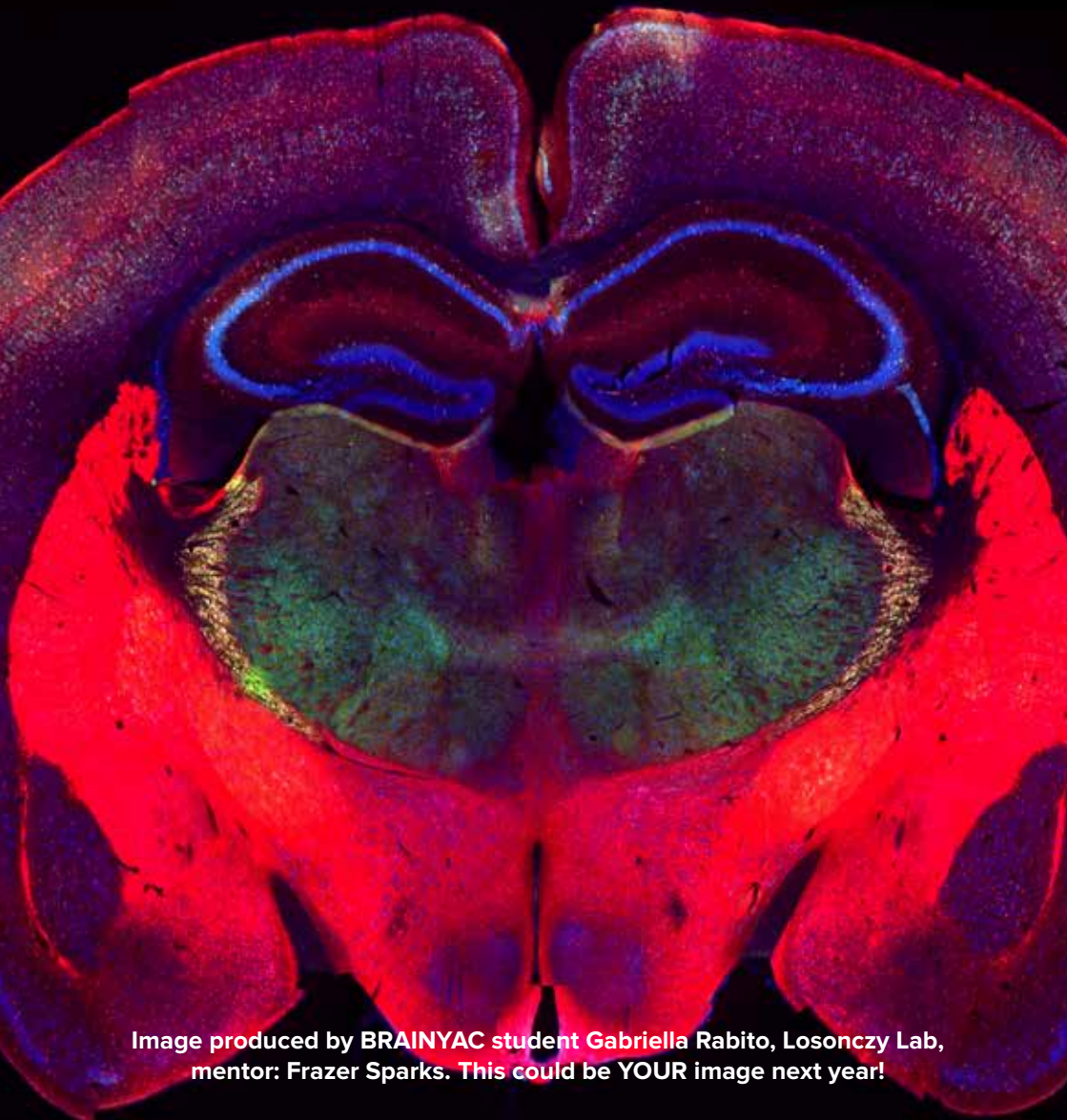


Image produced by BRAINYAC student Gabriella Rabito, Losonczy Lab, mentor: Frazer Sparks. This could be YOUR image next year!

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 to August
- enrolled in one of BRAINYAC's partner programs
- 16 years or older by the start of the program

“I have been able to do things during this summer that I only imagined researchers could do after years and years of school.”

—BRAINYAC student, class of 2017

Visit us online

 <https://zuckermaninstitute.columbia.edu/brainyac>

 @zuckermanbrain

 zuckermaninstitute

Funding provided by:

The Pinkerton Foundation

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BRAINYAC

BRAIN RESEARCH APPRENTICESHIPS IN NEW YORK AT COLUMBIA



“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

Our Partner Programs

We select students from one of our partner programs. See our website for complete eligibility criteria.

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



What's Involved

- Training sessions on Saturdays, twice per month from January to May
- a full-time laboratory internship, mentored by a Columbia University neuroscientist, from June through August
- a stipend paid in two installments

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 an a paid intern for the following year's BRAINYAC program
- return for alumni events
- be part of the Zuckerman Institute community



BRAINYAC





BRAINYAC 2019 Information Open House

6 messages

Mon, Oct 1, 2018 at 12:45 PM

To: [Redacted]

Dear Distinguished Partners,

I hope this email finds you well.

Following the completion of yet another successful BRAINYAC program session, we have commenced recruitment efforts for next year.

Attached is the tentative schedule for BRAINYAC 2019. We hope that the spring sessions will run select Saturdays, indicated in the attached schedule (from January through May) at 9:00 am to 11:00 am each day.

To that end, we would also like to meet with your students for a recruitment information session next week on Saturday, **October 13th, 2018 from 12:00 pm – 2:00 pm**. During this session, we will share with your students, details about the program, including the online application process and deadline.

Please feel free to contact me if you have any questions or concerns. Thank you for your time.

[Redacted]
Education Program Manager
Mortimer B. Zuckerman Mind Brain Behavior Institute
Columbia University
Studebaker Building
615 West 131st Street, New York NY 10027

[Redacted]
<http://zuckermaninstitute.columbia.edu>
<http://zuckermaninstitute.columbia.edu/zuckerman-institute-public-programs>
[Facebook](#) | [Twitter](#) | [Website](#)

 **2019 BR Program Schedule.pdf**
72K



Columbia's Zuckerman Institute presents

BRAINYAC PROGRAM

An immersive neuroscience research experience for high school students

Information session

Saturday, October 13, 2018
12:00 pm - 2:00 pm

Jerome L. Greene Science Center
Education Lab
3227 Broadway, New York

Learn more about:

- Program structure
- Application process
- Stipends and more



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For details, contact 
programs@zi.columbia.edu

Instructions

Welcome to the online application for Brain Research Apprenticeships in New York at Columbia (BRAINYAC). This application consists of multiple parts: personal information, parent/guardian information, education, short answer questions, personal statement, and interview availability.

We recommend that you compose your answers to the short answer and essay questions before beginning the application. You will be able to copy and paste your answers into the boxes provided.

By applying to the program, you commit that you will:

- attend all program sessions
- and be accompanied by a parent or guardian to the parent-student orientation on January 12, 2019, from 12:00 pm to 2:00 pm.

Short answer questions:

1. Describe one extracurricular activity (*organizations, athletics, student government, etc.*) you participated in and why it was meaningful to you. Include community service, if applicable.
2. What kind of laboratory experience do you have (*in school or extracurricular*)

(No previous lab experience outside of the typical high school classes is necessary for this program.)

Essay questions:

1. Describe what makes you a good candidate for the BRAINYAC program. What interests you about the brain and neuroscience?
(Max 300 words)
2. How would being in the BRAINYAC program help your education and career goals? *(Max 200 words)*

Personal statement:

Write an essay (*650 words or fewer*) that demonstrates your ability to develop and communicate your thoughts. Some ideas include a person you admire; a life-changing experience; your viewpoint on a particular current event or an insight to who you are.

Please direct any questions to:

[REDACTED]

[REDACTED]

[REDACTED]

Part I: Personal Information

First Name

Middle Name

Last Name

Which of the BRAINYAC partner programs or school are you enrolled in? *(If you are not currently enrolled in any of these programs, you are ineligible to apply for BRAINYAC)*

- Lang Youth Program
- S-PREP
- Double Discovery Center
- Columbia Secondary School for Science Math & Engineering
- BioBus

Mailing Address Line 1 (*Number, Street, Apt. #*)

Mailing Address Line 2 (*City, State*)

Zip Code

Cell phone Number (*If available*)

Email Address

Re-type email address

Gender

Male

Female

Date of Birth (*mm/dd/yyyy*)

Will you be 16 years of age on or before June 30, 2018?

(If you have not turned 16 years old by the start of the lab portion of BRAINYAC, you are ineligible to apply.)

Yes

No

Part II: Parent/ Guardian Information

Parent/ Guardian name (*First and Last*)

Parent/ Guardian Email Address

Home Telephone Number

Additional Parent/ Guardian Name *(Optional)*

Additional Parent/ Guardian Email Address *(Optional)*

Part III: Education

Name of high school

Current grade in school

- 10th grade
- 11th grade

Last known GPA

(NOTE: Your GPA - whether high or low does not affect your acceptance into the program. This is for funding and program evaluation purposes ONLY.)

List extracurricular activities you are currently involved in.

(organizations, athletics, student government, etc.)

Part IV: Short Answer Questions

Describe one extracurricular activity *(organizations, athletics, student government, etc.)* participated in and why it was meaningful to you.

Include community service, if applicable.)

What kind of laboratory experience do you have *(in school or extracurricular)*

(No previous lab experience outside of the typical high school classes is necessary for this program.)

Part V: Essay Questions and Personal Statement

Describe what makes you a good candidate for the BRAINYAC program. What interests you about the brain and neuroscience? *(Max 300 words)*

How would being in BRAINYAC program help your career goals? *(Max 200 words)*

Write an essay that demonstrates your ability to develop and communicate your thoughts. Some ideas include: a person you admire; a life changing experience; your viewpoint on a particular current event or an insight to who you are. *(650 words or fewer)*

Part VI: Program commitment and interview availability

We will be conducting interviews on the following days and times. Please indicate your availability on at least 3 separate dates, selecting as many time slots possible on each day. Interviews will be approximately 20 minutes and be conducted at Columbia University (Studebaker Building, 615 131st Street, New York). Further details will be provided to applicants invited to interview. Due to on-going constructions, please enter the building at 622 132nd Street.

Please hold dates you indicate below on your calendar until the week of November 26, 2018 when we will confirm your interview date.

3:00PM to
3:30PM

3:30PM to
4:00PM

4:00PM to
4:30PM

3:00PM to
3:30PM

3:30PM to
4:00PM

4:00PM to
4:30PM

Tuesday
November 13

Wednesday
November 14

Thursday
November 15

Friday, November
16

Monday
November 19

Tuesday,
November 20

Monday,
November 26

Tuesday
November 27

Wednesday
November 28

Thursday
November 29

Friday November
30

Monday
December 3

Tuesday
December 4

Wednesday
December 5

	3:00PM to 3:30PM	3:30PM to 4:00PM	4:00PM to 4:30PM
Thursday December 6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you commit to attending the BRAINYAC training sessions from 9:00 to 11:00 am on the following Saturdays?

January 19, January 26, February 2, February 9, March 2, March 16, March 23, March 30, April 6, May 11, and June 1, 2019?

- Yes
- No

Do you commit to attending a campus tour from 10 am to 2 pm on (*Chancellor's Day*) Thursday, June 6, 2019

- Yes
- Maybe
- No

Does your parent/ guardian commit to attend the parent-student orientation on January 12, 2019, from 12:00 pm to 2:00 pm?

- Yes
- No

Do you commit to participating in a scientific research laboratory internship and BRAINYAC advisory sessions from June 28 to August 16, 2019?

Yes

No

Part VII: Finalize submission

The information submitted above is true and correct to the best of my knowledge.

I agree

I disagree

I hereby submit my application to BRAINYAC program. *(Name, date)*

Almost Done

Columbia's Zuckerman Institute presents

BRAINYAC PROGRAM

An immersive neuroscience research experience for high school students



Information Booklet

Learn more about:

- Program structure
- Application process and more



Jerome L. Greene Science Center
Education Lab
605 129th Street, New York

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-  zuckermaninstitute.columbia.edu

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For details, contact ([REDACTED])
([REDACTED])

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BRAINYAC student running scientific protocol at Tomlinson Laboratory

██████████
Zuckerman Institute
615 West 131st Street
New York, NY 10027

E-mail: ██████████

BRAINYAC Program Overview and Goals

The Zuckerman Institute's BRAINYAC (Brain Research Apprenticeships in New York at Columbia) program is an immersive science research experience in which high school students train and work in neuroscience laboratories at Columbia University.

The program runs every year from January through August. This includes weekend training sessions in the winter and spring and a full-time internship during the summer.

BRAINYAC students:

- are introduced to an academic scientific research environment;
- develop laboratory and technical skills;
- boost their understanding of science as it is practiced; and
- build their communication and presentation skills.

Program Structure

The first portion, from January to May, is comprised of Saturday morning training sessions generally twice per month. During these sessions, students are prepared for their summer laboratory internship. Training sessions cover basic lab techniques, the essentials of neuroscience and how a lab works. During this time, each student is matched with a neuroscientist at Columbia University who will become the student's mentor for the summer portion of the program .



Starting in late June or early July, students commence the laboratory portion of the program. Students work in their internship labs full-time, Monday through Friday, taking part in a research project and are guided by their mentor. Depending on the lab and the project, a student might employ techniques such as microscopy, cell culture, functional imaging analysis and computer modeling.

Students join weekly BRAINYAC advisory sessions throughout their summer. The advisory sessions focus on supporting the students' progress in the labs and advancing their science communication skills.

Students who successfully complete the program receive a stipend of \$1,500 that is paid in two installments.

Program Outcomes

At the end of the program in mid-August students present their research to a diverse audience—friends, family, researchers, mentors and the broader Columbia community—during a poster presentation.

Students come away from the program with an enhanced understanding of how lab research can lead to transformative discoveries, exposure to a professional and academic environment, and a heightened connection to science as a career .

Student Eligibility

The BRAINYAC program admits students from select BRAINYAC partner programs and schools in upper Manhattan. Students commit to the entirety of the program from January through August

Applicants must be:

- sophomores or juniors in high school at the time of application;
- 16 years of age or older by the start of the summer session; and
- enrolled in one of our partner programs: Lang Youth Medical Program; State Pre-College Enrichment Program (S-PREP); Double Discovery Center at Columbia College; BioBus Internship Program; or the Columbia Secondary School for Math, Science, & Engineering. (See the Zuckerman Institute website for a complete and updated list.)

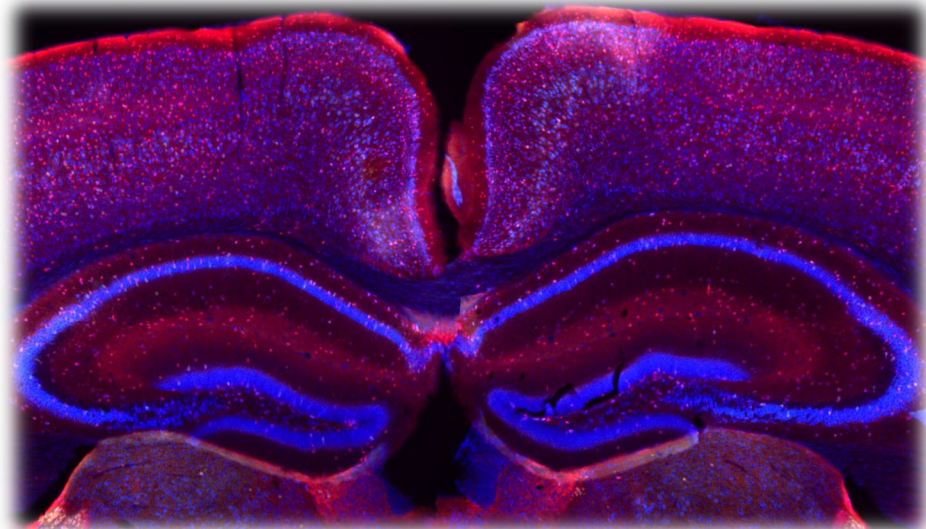


Image produced by BRAINYAC student Gabriella Rabito, Losonsky Lab., mentor: Frazer Sparks.

To be eligible to receive stipends, students must be:

- **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 program, but will not be eligible to receive stipends. Such students may be provided prepaid Metro cards.

How to Apply

Interested students should visit <http://tinyurl.com/BRAINYAC2019> to complete the online application. All applicants will be called to an interview between November 26 to December 6, 2018.

By applying to the program, you admit that you will attend all program sessions and be accompanied by a parent or guardian to the parent-student orientation **on January 12, 2019**

Program Best Practices

The Program has an extremely high retention rate, near 100%.

The success of the program can be attributed to the following practices:

- Paid Internships
- Mentor– Mentee matching process
- Lab tours
- Nurturing and welcoming professional environment
- Weekly advisory meetings to track and support each scholar’s progress
- Engaging contemporary inquiry-based curriculum
- Parent participation
- Partnership with various organizations
- Alumni network
- Program Intern position
- BRAINYAC Merit Fellow position



BRAINYAC Class of 2018

BRAINYAC Program 2019 Schedule

Application Deadline

November 13, 2018

Interview Dates

November 26 through December 6, 2018

Acceptance Dates

Week of December 10, 2018

Spring Orientation

January 12 – Parent-student orientation at Jerome L. Greene Science Center 605 West 129th Street, New York NY 10027: 12:00pm to 2:00pm

Spring Session: January-June: Training sessions are held on select Saturdays from 9:00 am to 11:00 am at the Education Lab of the Jerome L. Greene Science Center: enter at 605 West 129th Street, New York NY 10027

Spring Sessions

January 12, 2019	Parent-student orientation
January 19, 2019	Introduction to brain science
January 26, 2019	Neuronal communication, IHC
February 2, 2019	Irondale communication workshop
February 9, 2019	Learning and memory; animal models;
March 2, 2019	Journal club; Studying behavior/circuit
March 16, 2019	DNA, molecular techniques, virtual labs
March 23, 2019	Guest Lecture
March 30, 2019	Lab Skills: Solutions and Pipetting
April 6, 2019	Mentor Matching
May 11, 2019	Lab structure, Pubmed, review game
June 2, 2019	Snow date



Summer Lab Internships: June 28 - August 17 2019: Advisory sessions run on the following dates from 9:30 am to 11:30 am unless otherwise stated, at the Education Lab of the Jerome L. Greene Science Center: enter at 605 West 129th Street, New York NY 10027

Summer Sessions

- June 6: Lab tours and IDs
- June 28: Summer Session Orientation (9:30 am – 5 pm)
- July 3: Advisory session 2
- July 4: Independence Day. **NO INTERNSHIP**
- July 12: Advisory Session 3
- July 19: Advisory Session 4
- July 26: Advisory Session 5
- August 2: Advisory Session 6
- August 9: Advisory Session 7
- August 15: Advisory Session 8
- August 16: Poster Presentation (2 pm to 4 pm)
- August 17: End of Year Field Trip (10 am – 5 pm)





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BRAINYAC Program



Funding provided by

The Pinkerton Foundation

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 STAVROS NIARCHOS FOUNDATION

VWR
We Enable Science

BRAINYAC Program Mailing Contact:

██████████
 615 West 131st Street
 New York, NY 10027
 (212) 851-09612

E-mail: ██████████

Photo credit: Eileen Barroso; Bruce Gilbert

Special thanks to the:

Principal Investigators

[Redacted names of Principal Investigators]

Mentors

[Redacted names of Mentors]

Program Staff

[Redacted names of Program Staff]

For more information

Email: programs@zi.columbia.edu Phone: 212.851.9612

Website: zuckermaninstitute.columbia.edu/brainyac

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avantor foundation



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BRAINYAC Research Poster Presentation & Reception

Celebrating the achievements of the 2019 BRAINYAC graduates

at

Greene Science Center
Education Lab and Building Lobby
3227 Broadway, New York

Friday, August 16, 2019
2:00pm to 4:00pm



BRAINYAC 2019 graduates

The Zuckerman Institute's BRAINYAC program matches high school students with brain scientists for an immersive laboratory internship



Program Agenda

2:00 pm	Guest arrival
	Opening remarks
	Mentor appreciation
	Presentation of certificates
3:00 pm	Refreshments and research poster presentations
4:00 pm	Departure

A Note of Thanks

The Zuckerman Institute extends a sincere thank you to everyone who joined us here today to celebrate the achievements of the BRAINYAC class of 2019.

We owe a huge thank you to the principal investigators and mentors for opening their labs and mentoring the next generation of scientists. This program wouldn't be possible without their dedication and commitment.

We would also like to acknowledge our funders, the Pinkerton Foundation, the Stavros Niarchos Foundation and the Avantor Foundation for their generous support.

We thank all the parents and guardians for their support throughout the program. We are also grateful to the BRAINYAC Alumni Interns for returning to share their experiences and skills.

And finally, a very big congratulations to the BRAINYAC class of 2019 for successfully completing the program. We wish you success through high school and in the next steps of your education and career trajectory.

BRAINYAC Students and Research Projects

██████████	Assessing Motion in Developmental fMRI
██████████	The Effects of Early Life Stress on Brain Development
██████████	Characterizing Interneuron Populations in the CA1 Region of the Hippocampus
██████████	Understanding the Role of Stasimon: A Downstream Effector Gene in Spinal Muscular Atrophy (SMA)
██████████	A Global Study on the Boss Molecule in the <i>Drosophila melanogaster</i>
██████████	Ketamine Decreases Functional Connectivity caused by Chronic Stress in Mouse Dorsal Cortex
██████████	The Role of Side-Step in Leg Motor Neurons
██████████	Characterizing the Expression of Lhx2 in the Olfactory Epithelium in <i>Mus musculus</i>
██████████	Prophylactic (R,S) - Ketamine Protects Against Fear Overgeneralization
██████████	Microglia Ablation and Neural Progenitor Cells
██████████	A Learning Style Theory for Understanding Autistic Behaviors
██████████	The Effect of Incubation Period on Expression of a GCaMP Virus in the Medial Prefrontal Cortex
██████████	Gene Expression as a Cause of Stress Response
██████████	Through the Eyes of a Cuttlefish: Gauging The Limits of Cuttlefish Camouflage Behavior
██████████	The Effect of The Mettl3 Role on Mouse Motor Neuron Function

Annual Report: Youth Internships - Columbia University Facilities and Operations

State Submission Annual Reporting Period: **October 2018 - September 2019**

- Application Deadline: **May 31, 2019**

The Columbia University Facilities and Operations Summer Internship Program is a 6-week long paid internship for high school students living in the local* community 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 internship and are paid New York State minimum wage.

This summer, the program began on July 8, 2019 and ended on August 16, 2019. Interns were placed in one of the following Facilities and Operations departments: Manhattanville Development Group, Finance and Administration, Planning and Capital Project Management, Strategic Communications, Construction Business Initiatives, Environmental Stewardship, or Operations. Interns worked in their respective departments from Monday - Thursday and met as a group every Friday for special tours, workshops, and skills training.

* 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.

	Intern Name	Zip Code	High School
1.		10034	Innwood Early College
2.		10025	Business of Sports School
3.		10030	Urban Assembly School for Green Careers
4.		10026	Manhattan Business Academy
5.		10037	Jaqueline Kennedy Onassis For International Careers
6.		10034	Manhattan Business Academy
7.		10451	City Polytechnic High School of Engineering, Architecture, and Technology
8.		10474	High School of Economics & Finance
9.		10451	Brooklyn Technical High School
10.		10032	Innwood Early College
11.		10037	Brooklyn Technical High School
12.		10033	Innwood Early College
13.		10454	High School of Economics & Finance
14.		10035	Promise Academy 1 High School

Additional Supporting Documentation

- Columbia University Facilities and Operations Summer Internship Flyer
- Columbia University Facilities and Operations Summer Internship Application
- Columbia University Facilities and Operations Summer Internship Friday Schedule

Summer 2019 High School Internships



Columbia University Facilities and Operations provides a wide range of services to the University community, including planning, design, construction management and operations.

This summer, we are offering paid internships for high school students living in the local* community looking to gain real work experience before graduation. Previous work experience is a plus, but not required.

The paid internships begin on July 8, 2019 and end on August 16, 2019. Applicants must be at least 16 years old at the time of the start of the internship.

Apply for a high school internship by May 31:
cufo.columbia.edu/intern2019

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

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COLUMBIA UNIVERSITY

Facilities and Operations

High School Internship Application Form

Default Question Block

Columbia University Facilities and Operations is offering paid internships for high school students living in the local community looking to gain real work experience before graduation. Previous work experience is a plus, but is not required.

The paid internships begin on July 8, 2019 and end on August 16, 2019.

Please note that in accordance with New York State Law, all applicants must be able to provide an employment certificate (also called "working papers") before they begin work if selected for an intern position. Interns will be paid New York State minimum wage.

Other requirements:

- Must be at least 16 years old by start of internship (July 8, 2019)
- Must live in one of the following local zipcodes: 10025, 10026, 10027, 10029, 10030, 10031, 10032, 10033, 10034, 10035, 10037, 10039, 10040, 10451, 10454, 10455 and 10474

In order to be considered for an internship, you must submit this completed application form along with a copy of your resume and a cover letter. You will be able to upload your cover letter and resume at the end of this application form.

Application deadline: May 31, 2019

Please select your zip code from the drop down list below:

Personal Information:

Name:

Street Address:

City:

State:

Telephone Number:

E-mail Address:

Are you legally eligible to work in the United States?

- Yes
- No

If you are not a U.S. Citizen, are there any restrictions on your eligibility for employment?
Please explain:

Education:

School Name:

School Address:

Anticipated Graduation Date:

Grade Point Average:

Major:

Career Interests:

Please list any scholastic honors/achievements/activities:

Work History (please include paid, volunteer, and intern positions):

Most Recent Employer:	<input type="text"/>
Location (City/State)	<input type="text"/>
Position Title	<input type="text"/>
Start Date	<input type="text"/>
End Date	<input type="text"/>
Description of Duties:	<input type="text"/>
Past Employer:	<input type="text"/>
Location (City/State):	<input type="text"/>
Supervisor (Name & Title):	<input type="text"/>
Your Position Title:	<input type="text"/>
Start Date:	<input type="text"/>
End Date:	<input type="text"/>
Description of Duties	<input type="text"/>

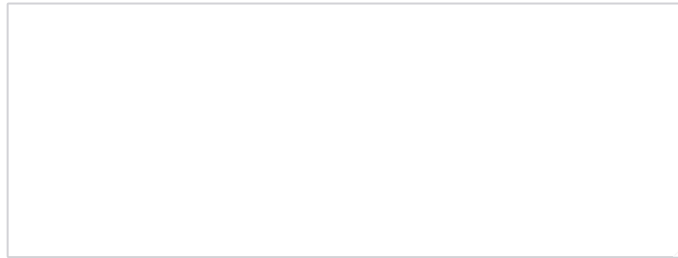
References (may include teachers, supervisors, family members or volunteer work leaders.) Written references may be submitted with an application. The letter of reference should site specific examples of the candidate's ability to successfully complete the internship if chosen.

Reference #1 Name:	<input type="text"/>
Telephone Number:	<input type="text"/>
Company/School:	<input type="text"/>
Relationship:	<input type="text"/>
Known How Long:	<input type="text"/>
Reference #2 Name:	<input type="text"/>
Telephone Number:	<input type="text"/>
Company/School:	<input type="text"/>
Relationship:	<input type="text"/>
Known How Long:	<input type="text"/>

Accomplishments (Community/professional organizations, honors and awards):

Accomplishments (Activities relevant to the internship for which you are applying):

Why would you like to work as an intern at Columbia University?



Please see below for descriptions of each internship position:

Department: Manhattanville Development Group

Project Management Intern:

- Perform architecture/design related tasks, including compiling data and preparing drawings for distribution; assisting in compiling architectural plans; assist in conducting preliminary studies to obtain information as to space and design requirements; research and information gathering for use in various projects.
- Work closely with Project Management team on various task lists, construction updates and construction reports
- Learn how to conduct effective meetings with clients and contractors and document the meeting with formal minutes
- Assist with filing, organizing and cataloging project documents

Department: Planning and Capital Project Management

Design and Compliance/Capital Project Management Intern:

- Create directory of plan room files
- Scan and file operations drawings
- Organize compliance binders and progress photos
- Attend meetings with a Project Manager, take notes, record attendance

Department: Finance and Administration

IT Helpdesk Support Intern:

- Learn how to identify, research, and resolve technical problems
- Respond to telephone calls, email and personnel requests for technical support
- Learn how to document, track and monitor all problems to ensure a timely resolution
- Assist in the installation and configuration of workstations based on needs and requirements

Human Resources Intern:

- Under the guidance of the Associate Director, the intern will work on research, analysis, and documentation of Columbia University's Facilities and Operations internal leave management process
- Work closely with assigned staff to document and draft the internal workflow for requesting leaves, monitoring status of leaves, providing required documentation and returning from leaves.
- Develop a FAQs section to assist employees considering leaves
- Will assist with drafting an online communications plan for employee communications regarding leaves of absences

Code Compliance Intern:

- Organize and review City certificates, permits, and plans to ensure they are up to date
- Create Excel database of key information for each city permit
- Assist with noting the progress of renovation

Capital Finance Intern:

- Learn the overall lifecycle process of capital construction projects
- Learn to use key financial Excel tools to prepare financial summaries geared toward upper management, clients and project management groups
- Use Oracle Primavera Unifier Software (Unifier) to report on capital project information and reports generated from Unifier to identify key fields to be updated per review of capital construction project documents and high level financial information
- Update key construction cost indexes and apply them to the capital project summaries for benchmarking purposes.

Department: Construction Business Initiatives

Communication and Outreach Support Intern:

- Work on Safety & Compliance Training PowerPoint
- Assist with CU Grow Vendor Development Program elements
- Create template for Minority-, Woman-, and Locally-Owned Businesses bid list requests
- Support Sustainable Columbia ReUse Program relaunch
- Send communications to University vendors
- Provide administrative support for document management, expense reports and contact records

Department: Environmental Stewardship

Environmental Stewardship Intern:

- Table at events to spread and educate Columbia affiliates on various environmental campaigns
- Staff Columbia's Clean and Go Green outdoor tent event
- Perform online research for various environmental topics
- Assist in waste data collection and evaluation on campus
- Audit Columbia bike enclosures for abandoned bikes
- Help draft office communications and data work using Microsoft Outlook, Word and Excel
- Some tasks will be physical and hands-on in nature, requiring individual to stand up for periods of time, or maneuver into small spaces

Department: Strategic Communications

Communication Support Intern:

- Help design, develop and distribute effective communication materials for meetings with clients
- Review and recommend social media strategies to reach targeted audiences
- Conduct research and assist with preparation of presentations and support client relation activities
- Assist with communications-specific special projects

Department: Fire Safety

Fire Life Safety Intern:

- The Intern will work with the Fire Safety Staff
- Participate in Fire Life Safety inspections of the buildings, complete inspection reports
- Participate in fire drills and complete fire drill reports
- Investigate complaints for odors, code violations etc.. and complete required reports
- Participate in Fire Safety education discussions scheduled during internship

Please select your first preference for internship position:

Please select your second preference for internship position:

How did you find out about the Columbia University Facilities and Operations High School Internship Program?

If "Other" please write in how you found out about internship program:

Please upload your cover letter.

Please upload your resume.

If you have a reference letter, you may upload it here.

I certify that all of the statements in this application are true and complete to the best of my knowledge. Please sign below with mouse cursor.

×

SIGN HERE

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Columbia University is an Equal Opportunity/Affirmative Action employer --Race/Gender/Disability/Veteran.

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Columbia University Facilities and Operations Summer Intern Friday Schedule 2019

Friday, July 12 – Ice Breaker, Presentation Skills Workshop, and Team Building Exercise with [REDACTED]

Friday, July 19 – Overview of Campus Services

- Tour of Alfred Lerner Hall with [REDACTED], Assistant Manager, Lerner Hall Welcome Desk
- Tour of Faculty House with [REDACTED], General Manager
- Tour and Lunch at Ferris Booth Commons with [REDACTED], General Manager
- Attended information session for perspective students, presented by the Undergraduate Admissions Office
- Overview of the Office of Environmental Stewardship and Recycling Demonstration/Activity with [REDACTED], Assistant Director, Outreach & Planning
- Overview of Alice! Health Promotion and Health & Wellness discussion with [REDACTED], Senior Health Promotion Specialist

Friday, July 26 – Tour of the Lamont-Doherty Earth Observatory

- Tour of Lamont-Doherty Core Repository and research activity with [REDACTED], Curator
- Walking tour of the campus

Friday, August 2 - Tour of the Manhattanville Campus

- Visit to the Sheffield Farms Exhibit with [REDACTED], Manager, Visitor Services
- Overview of the model of the new campus with [REDACTED], Senior Project Manager
- Tour of the Jerome L. Greene Science Center with [REDACTED] and [REDACTED]
- Tour of The Forum with [REDACTED], Executive Director and [REDACTED]
- Tour of the Wallach Art Gallery and Art Activity with [REDACTED], Education Assistant

Friday, August 9 – Finalize and Practice Presentation

- Behind the scenes tour of Roone Aldridge Auditorium with [REDACTED], Executive Director, University Event Management; [REDACTED], Assistant Director, Technical Services; [REDACTED], Supervisor, Technical Services
- Met with [REDACTED], General Manager to discuss room set up and specifications
- Met with [REDACTED], Audio Visual Manager to discuss all A/V needs

Friday, August 16 – Final Presentation

Annual Report: Youth Internships - Engineering the Next Generation

State Submission Annual Reporting Period: **October 2018 - September 2019**

- Application Deadline: **April 5, 2019**

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 Engineering the Next Generation (ENG) Program is a 6-week long intensive summer program at Columbia Engineering for academically competitive high school students. Rising high school seniors are placed in engineering labs, matched with 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. 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.		11373	Columbia Secondary School
2.		10075	High School for Math, Science & Engineering
3.		10456	ELLIS Preparatory Academy
4.		10456	ELLIS Preparatory Academy
5.		10454	ELLIS Preparatory Academy
6.		10463	Columbia Secondary School
7.		11372	Columbia Secondary School
8.		10025	Columbia Secondary School
9.		10027	Columbia Secondary School
10.		10473	ELLIS Preparatory Academy
11.		10069	Columbia Secondary School
12.		10040	High School for Math, Science & Engineering

Additional Supporting Documentation

- ENG Outreach and Application Process
- ENG 2019 Application Packet



Engineering the Next Generation

JULY 1 - AUGUST 9, 2019

EARN A STIPEND!

\$1200 FOR PROGRAM COMPLETION!

- Learn from Columbia Engineering researchers
- Build technical, academic, and personal skills
- Get hands-on lab experience

-
- Opportunities in engineering labs: Mechanical, Chemical, Electrical, Civil, Applied Physics and Math, Computer Science
 - 6-week summer program
 - Daily schedule: 9-5, Monday-Friday
 - Weekly seminars, mentoring, site visits, workshops, research symposiums, college and career prep

APPLICATIONS DUE: APRIL 5, 2019

Apply now: <http://bit.ly/ENGApp2019>

Questions? Email: engineeringoutreach@columbia.edu Phone: 646.745.8422

Engineering the Next Generation Outreach and Application Process – 2019

The program admits from five partner schools; Columbia Secondary School, The High School for Math, Science and Engineering (HSMSE) at the City College of New York, Marble Hill HS for International Studies, and ELLIS Preparatory Academy, and Bronx Center for Science and Math.

The following is the approximate timeline of recruitment from 2019:

Early March - Recruitment begins, schools and teachers contacted

Early May - Interviews with qualified candidates

Mid May - Admissions decisions sent to applicants

Early June - Participant lab/mentor placements assigned

In addition to the 2019 application packet, students were also requested to submit a resume, transcript, and request a letter of recommendation from a STEM-subject area teacher.

E.N.G. Summer 2019 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.

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 5, 2019 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?