

# NanoBio Research and Education at the City University of New York



**Rein Ulijn**

Director, Nanoscience Initiative

Director, ASRC Sensor CAT

Director, NanoBioNYC

Professor of Chemistry, Hunter College

Advanced Science Research Center, City University of New York

What is **CU**  
**NY** ?



# CUNY is NYC



Baruch COLLEGE

BRONX COMMUNITY COLLEGE

Brooklyn College

THE CITY COLLEGE OF NEW YORK

THE CITY UNIVERSITY OF NEW YORK College of Staten Island

THE GRADUATE CENTER CITY UNIVERSITY OF NEW YORK

HUNTER The City University of New York

JOHN JAY COLLEGE OF CRIMINAL JUSTICE

LEHMAN COLLEGE

MACAULAY HONORS COLLEGE AT CUNY

QUEENSBOROUGH COMMUNITY COLLEGE

THE CITY UNIVERSITY OF NEW YORK BMCC BOROUGH OF MANHATTAN COMMUNITY COLLEGE

Hostos Community College

KINGSBOROUGH COMMUNITY COLLEGE

LaGuardia Community College

MEDGAR EVERS COLLEGE

NEW YORK CITY COLLEGE OF TECHNOLOGY

QUEENS COLLEGE

CUNY SPH GRADUATE SCHOOL OF PUBLIC HEALTH & HEALTH POLICY

YORK College

# **CU NY** is economic mobility



**The largest and most diverse urban public university system in the US;  
#1 in socio-economic upward mobility**

**243,000**

**Undergraduate & Graduate  
Students**

**60%**

**First Generation  
to go to College**

**Diverse**

**22%**  
Asian/Pacific Islander

**26%**  
Black

**31%**  
Hispanic

**21%**  
White

**82%**

**Alumni stay  
in New York City**

**82%**

**Freshmen  
are NYC Public High School  
Graduates**





# An Integrated System to grow and diversify STEM research





# ASRC: NYC hub for interdisciplinary research





# What is NanoBioNYC?

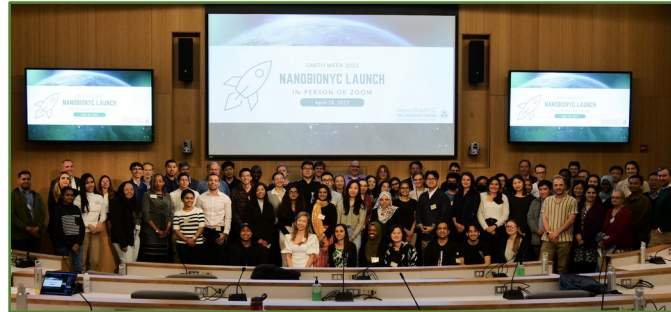
*An NSF-funded Research Traineeship (NRT) program focused on developing groundbreaking bio-nanoscience solutions to address urgent human and planetary health issues and preparing students to become tomorrow's leaders in diverse STEM careers.*



# We are a CUNY-wide community



## NanoBioNYC Launch



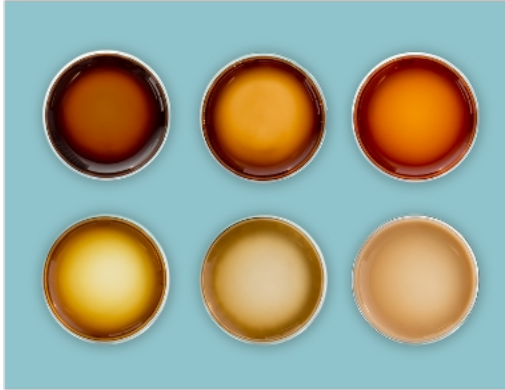
## NanoBioNYC Social



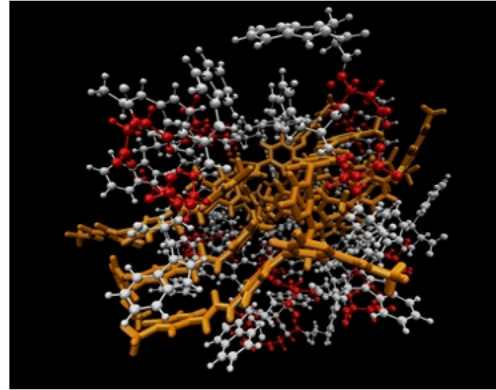


# Bionano Research *Foci*

Personal care products



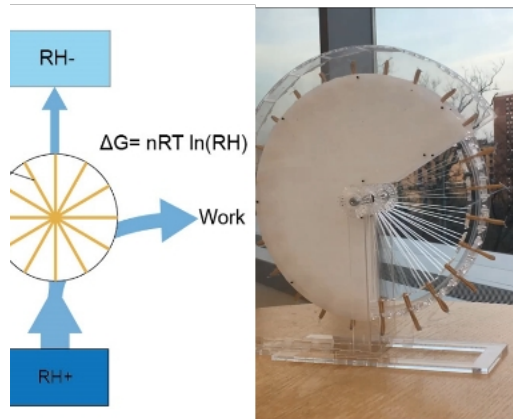
drug delivery



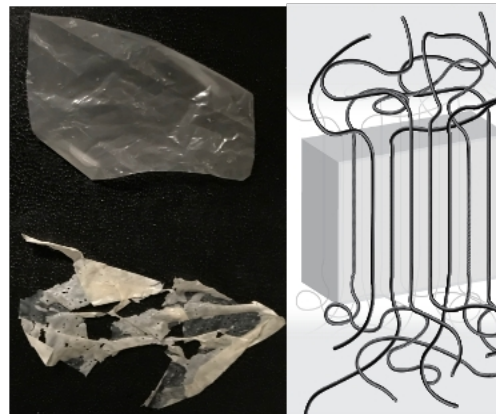
tissue scaffolds



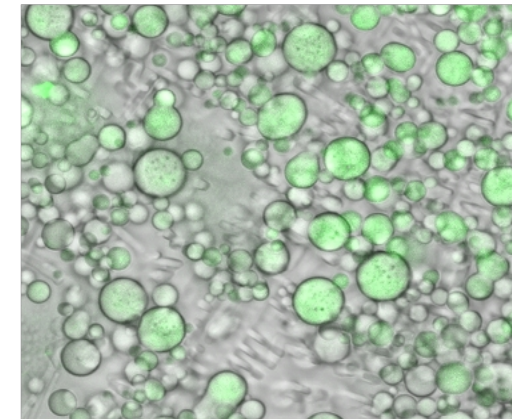
energy harvesting



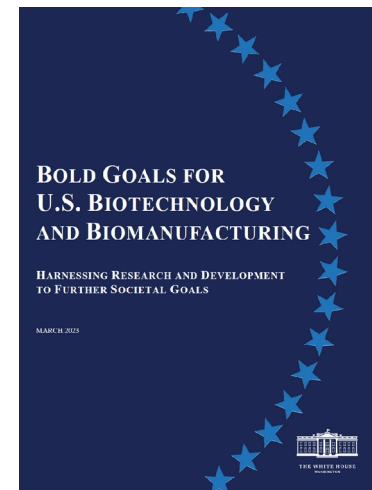
biodegradable plastics



emulsifiers



Batteries, displays, electronics, *etc.*



# NanoBioNYC- Programming

## RESEARCH – Focus Areas

- Green Materials and Environmental Solutions
- Interfacing Nanotechnology and Biology
- Design of Functional Materials
- Cross-Cutting Computational Research



Hands-on practical laboratory training at CUNY ASRC core facilities in:

- Nanofabrication
- Nanoscale Imaging
- Surface Science
- and more!



## PROFESSIONAL DEVELOPMENT - Supporting Diverse Career Tracks

- **Entrepreneurship course** for STEM graduate students developed with the business school (Baruch College).



- **Industry:** internships at partnering companies



- **Start-up/Entrepreneurship:** participation in NSF I-Corps



- **Academia or Government Labs:** internships at partnering institutions



## Workshops:

- Citation Manager
- Discover Your Career Strengths
- Presenting Your Science
- IMMERSE – The Living Battery



## Student Awards:

Monetary (\$) awards to celebrate students who excel in their research!





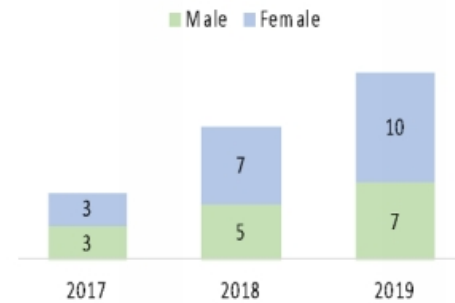
# Recruiting a student body as diverse as NYC

## Recruit from within the CUNYverse

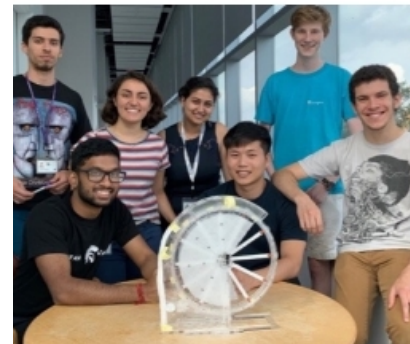
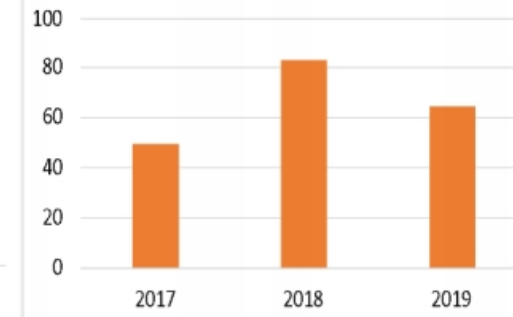


## Nanoscience REU program at Columbia University and CUNY ASRC

Number of Students by Gender



URM Students (%)





# Check us out!



“The environment here fosters a collaborative approach where I feel supported both by my professors and my peers. This is a great place to partake in exciting research in a variety of different subdisciplines.”

“Being connected to talented scientists of differing expertise around central nanoscience topics is what excites me most about the program.”



“The most exciting part about being in a new program is being able to chart a new course outside of the normal.”

“What excites me most about NanoBioNYC is the guidance to make informative decisions for the next step in your scientific career and the tools provided to navigate the job market.”

[www.NanoBioNYC.com](http://www.NanoBioNYC.com)

Or reach out to Tasnim Jackson, Program Coordinator  
[tjackson1@gc.cuny.edu](mailto:tjackson1@gc.cuny.edu)





ADVANCED SCIENCE  
RESEARCH CENTER  
**THE GRADUATE CENTER**  
CITY UNIVERSITY OF NEW YORK

