

# The City Tech I<sup>3</sup> Incubator

Interdisciplinary partnerships for Laboratory Integration

About New York City College of Technology:

## Urban

- Commuter college located in downtown Brooklyn
- Over 15,000 degree students

## Technology and career-focused

- Offers AAS, AA, AS, BS, BS Ed, BTech in 29 areas
- Designated college of technology for City University of New York

# Diverse

**Enrollment 15,404 degree students(fall 2009)--** *\*This is an increase of 9% since fall 2008.*

- 63.1% full-time / 36.9% part-time
- 4,026 baccalaureate (26%)

Of those responding . . .

## **Background**

- 43.1% born outside of U.S. (134 countries represented)
- 60.5% report language other than English spoken at home
- 32.0% list their parents as college grads+

## **Finances**

- 52% report household income less than \$30,000+
- 76.8% incoming freshmen receive need-based aid
- 60% continuing students receive need-based aid
- 35% work more than 20 hours per week+

**Median Age** 21

**Gender**

- 52.3% Male
- 47.7% Female

**Race/Ethnicity**

- 34.7% Black (non-Hispanic)
- 30.7% Hispanic
- 17.7% Asian/Pacific Islander
- 11.0% White (non-Hispanic)
- 0.4% Native American
- 5.5% Other

**Residence**

- 53.2% Brooklyn
- 43% Other NYC

# The City Tech I<sup>3</sup> Incubator

Interdisciplinary partnerships for Laboratory Integration

*NSF I<sup>3</sup> (Innovation through Institutional Integration) goals*

- Increase synergy across NSF-funded projects and between/within institutions; more fully integrate student experience
- Deepen impact of NSF-funded projects; enhance sustainability
- Broaden participation through workforce development in STEM
- Integration of STEM research and education; research in domains of integration and broader impacts

*City Tech's I<sup>3</sup> mechanisms for integration*

- Cross-project matrix for existing NSF funded projects
- Centered around *Lab Experience of Students*
  - Multi-dimensional model of lab practice
  - Interdisciplinary case studies: content/pedagogy/technology to be integrated across schools/departments/divisions and externally

# Incubator

*We want to ....*



- encourage experimentation in laboratory practice and research;
- create flow of ideas and innovative projects;
- encourage exchange between faculty members;
- identify and disseminate best practices of external partnerships;



***Provide infrastructure for initiation and maintenance of collaborations/partnerships.  
Support documentation and dissemination of activities.***

What can we learn from in-house expertise?

Look at our currently funded NSF projects, identify most effective features, and institutionalize them!

<b>STEP – MMNet</b>	<b>Brown, Berri, Jang, Cabo, Kezerashvili</b>	<b>Metropolitan Mentors Network (MMNet): Growing an Urban STEM Talent Pool across New York City</b>
<b>S-STEM Li</b>	<b>Li, Jang</b>	<b>New York City College of Technology S-STEM Program</b>
<b>S-STEM Natov</b>	<b>Natov, Brown, Spellane, Ghosh-Dastidar</b>	
<b>REU</b>	<b>Blake, Brown</b>	<b>REU Site: Experience for Undergraduates in Satellite and Ground-Based Remote Sensing at NOAA-CREST</b>
<b>ADVANCE-IT-START</b>	<b>August, Jones, Brown, Gitman, Kahrabaei</b>	<b>ADVANCE IT Start Award: Research, Reflect, Plan - IT Start at New York City College of Technology</b>
<b>C-Path-1</b>	<b>Guidone, Malyuta, Bargar, Kolchenko, Gold</b>	<b>CPATH-1: Planning for IT through Computational Thinking</b>

# Integration across existing NSF funded projects

## Website

already created, for information dissemination, all STEM initiatives linked, updated continuously in future.

## [I-cubed Website](#)

## Multi-dimensional model of lab experiences (MMLP)

initial assessment of lab experience, then measuring effects of changes in lab content/pedagogy/technology use

## Advisory board

PIs, Co-PIs of NSF funded projects, Industry partners

## Cross-project matrix

serves as a communication and evaluation tool.

Project	NSF Project Coordination Matrix									
	<i>Diversity</i>	<i>Interdisciplinary content</i>	<i>Technology Integration</i>	<i>Pedagogy</i>	<i>STEM/ Education research</i>	<i>Lab content</i>	<i>Faculty development</i>	<i>Industry connections</i>	<i>Planning/ Sustainability</i>	<i>Student Support</i>
STEP-MMNet										
REU										
S-STEM-Natov										
S-STEM-Li										
C-Path										
ADVANCE										