Hunter has a thriving – and rapidly growing – culture of undergraduate research that encourages student-faculty interactions, enhances students' intellectual development and contributes to students' academic and professional success.

Hunter currently has 15 federally- and privately-funded programs to support student-faculty research. This report presents data on students enrolled in the Raab Presidential Fellows Program, the Undergraduate Research Initiative, and the 13 STEM enrichment programs affiliated with Hunter’s NSF-funded Science Mathematics Opportunities Network (SciMON).

### WHO ARE HUNTER’S UNDERGRADUATE RESEARCHERS?

In Spring 2014, 210 Hunter students participated in an undergraduate research program.

- 63% of participants were women, which is comparable to the percentage of women in Hunter’s undergraduate population overall (65%).

- Because most external funding supports undergraduate research in STEM, the majority of Hunter students who conducted research majored in the natural sciences (65%).

- Internal funding via the Raab Presidential Fellows Program and Hunter’s Undergraduate Research Initiative provides opportunities for students majoring in the social sciences and humanities to participate in research.

Many of Hunter’s STEM research and mentoring programs are designed to increase the participation of groups often underrepresented in science, including racial/ethnic minorities.

- While Black students are traditionally underrepresented in the sciences (NSF, 2013), at Hunter, 17% of undergraduate researchers in STEM are Black, compared to 12% of Hunter students overall.

### STEM DISCIPLINES: RACE

<table>
<thead>
<tr>
<th>Undergraduate Researchers Majoring in STEM</th>
<th>Hunter STEM Majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 187</td>
<td>N = 4,497</td>
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<table>
<thead>
<tr>
<th>Gender</th>
<th>Major</th>
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<tbody>
<tr>
<td>63% Women</td>
<td>37% Men</td>
</tr>
<tr>
<td>65% Natural Sciences</td>
<td>27% Social Sciences</td>
</tr>
<tr>
<td>4% Humanities</td>
<td>4% Undeclared</td>
</tr>
</tbody>
</table>

N = 210

N = 210
Engaged forms of learning, including undergraduate research experiences, are correlated with higher graduation rates (Lopatto, 2004; Osborn & Karukstis, 2009).

**At Hunter:** For cohorts entering as freshmen between 2004 and 2009, the four-year and six-year graduation rates of undergraduate researchers (45.5% and 87.0%, respectively) are higher than for Hunter’s undergraduate student body overall (22.1% and 46.3%, respectively).

Undergraduate research experiences have also been linked to higher grade point averages (Eagan, et al., 2013; Osborn & Karukstis, 2009; Sadler & McKinney, 2010).

**At Hunter:** Among Hunter’s STEM majors, undergraduate researchers graduate with significantly higher GPAs, on average, than students in Hunter’s general population (3.58 vs. 3.47, respectively).
WHAT HAVE HUNTER’S UNDERGRADUATE RESEARCHERS ACCOMPLISHED?

There are numerous additional benefits for students who conduct research as undergraduates, including the possibility of publishing their work (Seymour et al., 2004).

**At Hunter:** Students who participate in undergraduate research have published their work in top peer-reviewed journals in areas including bioinformatics, chemistry, genetics, medicine, nutrition, and psychology.

Students who participate in research as undergraduates report higher enrollment in graduate programs (Bauer & Bennett, 2003; Lopatto, 2004).

**At Hunter:** Many undergraduate researchers go on to top professional and graduate programs, including doctoral programs at some of the best research universities in the country. Hunter’s undergraduate researchers have pursued:

- PhDs in the sciences, social sciences and humanities
- Professional degrees in medicine (MD, DO and MD/PhD), pharmacy (PharmD), law (JD), dentistry (DDS), and veterinary medicine (DVM)
- Master’s degrees in fields including computer science, education, geography, mathematics, physics, public health, and social work.

### Publications

Hunter’s undergraduate researchers have published in journals including:

- British Journal of Sports Medicine
- BMC Genomics
- Cancer
- Journal of Adolescence
- Journal of Anxiety Disorders
- Journal of Cell Science
- Journal of Neuroscience
- Nature
- Obstetrics and Gynecology
- PLoS ONE
- Psychopharmacology

### Graduate School Acceptances

Hunter’s undergraduate researchers have been accepted to top graduate and professional schools including:

- Brown University
- Carnegie Mellon University
- Columbia University
- Cornell University
- Harvard University
- Icahn School of Medicine at Mount Sinai
- Johns Hopkins University
- Massachusetts Institute of Technology
- Memorial Sloan Kettering Cancer Center
- New York University
- Princeton University
- The Rockefeller University
- University of California, Berkeley
- University of Chicago
- University of Michigan
- University of Rochester
- Weill Cornell Medical College
- Yale University
WHAT ARE STUDENTS SAYING ABOUT UNDERGRADUATE RESEARCH?

NOTES AND DEFINITIONS

1. The 13 STEM enrichment programs include: AstroCom NYC, BP-ENDURE, Catalyst, HHMI, LSAMP, MARC, MBRS-RISE, McNair, McNulty Scholars, MIND Alliance, MMUF, QuBi, and Raise-W.

2. Hunter’s Undergraduate Researchers are defined as students who are active in any of the research programs as of spring, 2014. Psychology was coded as a social science, with the exception of neuropsychology, which was coded as a natural science. Students who have multiple majors were counted multiple times.

3. Undergraduate Researchers Majoring in STEM are defined as students who are active in any of the research programs as of spring, 2014 and are majoring in a STEM discipline, including psychology. Data for Hunter STEM Majors (including psychology) were obtained via Hunter’s 2013 Factbook and include undergraduate researchers.

4. Undergraduate Researchers are defined as students who participated in a research or mentoring program at some point in their undergraduate careers and obtained their undergraduate degree by June, 2013. Data for Hunter Students were obtained via Hunter’s 2013 Factbook and include undergraduate researchers. 6-year graduation rates for both Undergraduate Researchers and Hunter Students include those who graduated in 4 years.

5. Undergraduate Researchers are defined as students who participated in a research or mentoring program at some point in their undergraduate careers, majored in a STEM field (including Psychology), and obtained their undergraduate degree between 2007 and 2014. Data for Hunter Students were obtained via CUNYfirst and include undergraduate researchers. T-test analysis was completed using SPSS Statistics 20. The effect size of the t-test (Cohen’s d=0.35) is considered small to moderate. Many of Hunter’s research programs require a minimum GPA of 3.0 and many students apply during their sophomore year. Therefore, to control for academic performance, the comparison group of Hunter students’ GPAs upon graduation was selected based on the following criteria: undergraduate STEM majors (including Psychology) who had a cumulative GPA of 3.0 or higher as an upper sophomore (45-59.9 credits).

6. Publication data includes first- or co-authored publications of students while they were enrolled at Hunter and since they have graduated. Data were obtained via faculty, Google Scholar, and LinkedIn; includes data only for those students for whom data are available.

7. Includes data only for those 157 students for whom data are available, and who were accepted into graduate schools in the United States. Data were obtained from program administrators, faculty, student reports, the Office of Institutional Research, and LinkedIn.