



# Annual Institutional Profile Report

2017



Submitted to the  
New Jersey Higher Education  
Office of the Secretary  
By  
The Office of Institutional Effectiveness  
New Jersey Institute of Technology

September 2017



September 15, 2017

In accordance with the 1994 Higher Education Restructuring Act's mandate to "prepare and make available to the public an annual report on the conditions of the institution," New Jersey Institute of Technology is proud to present the Institutional Profile for the Fiscal Year 2017.

The form and content of this report are established by the Office of the Secretary of Higher Education, but the data included herein highlight NJIT's service to the State of New Jersey in education, scholarly and applied research, and economic development in the fields of science, technology, engineering and mathematics, as well as design, the management of technology, and the history and impact of technology on society.

NJIT, founded in 1881, is proud of its contributions to our state. NJIT has supplied well over 25% of the state's engineering workforce and has established one of the nation's largest incubators for start-up technological companies. Research activities focus on life sciences and engineering, sustainable systems, data science and information technology, and other transdisciplinary areas. Major funding for instructional and research programs is obtained from leading corporations, foundations, and government agencies including the National Science Foundation, the United States Department of Defense, the U.S. Environmental Protection Agency, the U.S. Department of Transportation, and many others.

This Institutional Profile Report details NJIT's efforts and reflects its continuing commitment to New Jersey and its citizens. All information supplied in this document is, to the best of my knowledge, complete and accurate.

Sincerely on behalf of NJIT,

Joel S. Bloom  
President

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## **SECTION I – NEW JERSEY INSTITUTE OF TECHNOLOGY**

NJIT was founded in 1881 as the Newark Technical School, becoming the Newark College of Engineering in 1930. Today, New Jersey Institute of Technology has six schools and colleges: Newark College of Engineering, the College of Architecture and Design (1973), the College of Science and Liberal Arts (1982), the Martin Tuchman School of Management (1988), the Albert Dorman Honors College (1993), and the Ying Wu College of Computing (2001).



NJIT has evolved from a commuter school teaching applied engineering skills to a nationally ranked public research university. This evolution has been achieved through an aggressive faculty recruitment plan matched by an extensive building effort that doubled the size of the main campus over the past decade, and added major research facilities for environmental engineering and science, advanced manufacturing, microelectronics, and life sciences. Enrollment increased from 6,300 students in 1979 (the first year for which there is

publicly available federal data) to over 11,500 in the fall of 2017. Total academic research expenditures in fiscal year 2017 reached almost \$140 million, and NJIT’s economic impact is valued at \$1.7 million. Seventy-nine percent of NJIT baccalaureate degree recipients have secured employment or full-time continuing education within three months of graduation.

At the same time, NJIT remains true to its urban mission and its commitment to helping motivated and talented students overcome educational challenges. In early 2017, NJIT was ranked #1 in the nation for the upward economic mobility realized by its graduates (as reported by The New York Times’ study of “America’s Great Working-Class Colleges”). For example, despite many entering freshmen qualifying for Pell grants, NJIT graduates enjoy mid-career salaries that place them among the graduates of the top four public research universities in the country. Moreover, about 25 percent of all NJIT bachelor’s degree recipients enter graduate programs within six months of receiving their degrees.

NJIT’s 45 acre, computing-intensive, residential campus is located in the University Heights section of Newark, less than 10 miles from New York City and Newark International Airport. It is easily reached by interstate highways and public transportation. Graduate, undergraduate, and continuing education classes are offered at the main campus, at extension sites at colleges and other locations throughout New Jersey, and increasingly through a variety of electronically-mediated distance learning formats.

## **NJIT Mission Statement**

NJIT is the state's technological research university, committed to the pursuit of excellence

- In undergraduate, graduate, and continuing professional education, preparing students for productive careers and amplifying their potential for lifelong personal and professional growth
- In the conduct of research with emphasis on applied, interdisciplinary efforts encompassing architecture and the sciences, including the health sciences, engineering, mathematics, transportation and infrastructure systems, and information and communications technologies
- In service to both its urban environment and the broader society of the state and nation by conducting public policy studies, making educational opportunities widely available and initiating community-building projects
- In contributing to economic development through the state's largest business incubator system, workforce development, joint ventures with government and the business community, and through the development of intellectual property

NJIT prepares its graduates for positions of leadership as professionals and as citizens; provides educational opportunities for a broadly diverse student body; responds to the needs of large and small businesses, state, and local governmental agencies and civic organizations; partners with educational institutions at all levels to accomplish its mission; and advances the uses of science, technology, engineering, and mathematics (STEM) as a means of improving the quality of life.

## **NJIT Strategic Plan: 2020 Vision**

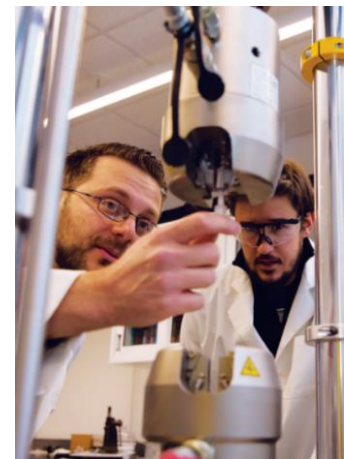
As one of the nation's leading public science and technology universities, NJIT prepares leaders to design, develop, and manage the world of tomorrow through STEM education, applied and scholarly research, technological innovation and entrepreneurship, societal engagement, and career excellence. NJIT will achieve its vision through five strategic priorities that will guide the development of the students, the transformation of the curriculum, the growth of scholarly research, the fostering of a global community, and investments in human, physical, and technological resources.

### **Strategic Priority 1: Students**

Goal: Once enrolled at NJIT, students will receive the highest level of academic and social support to enable them to persist through a rigorous curriculum and become leaders in their professions or continue their studies at a more advanced level. In both undergraduate and graduate programs, new initiatives will refine and target admission processes to increase the rates of academic success.

### **Strategic Priority 2: Learning**

Goal: NJIT students will encounter a course of study that is under continual scrutiny in order to ensure that it meets current professional standards, provides a general education to produce the most highly



qualified leaders, and is delivered by enthusiastic instructors using innovative and effective methods. Digital learning will be an integral part of every student's experience, with instructors engaging students through "converged" pedagogies where the boundaries between online and face-to-face instruction fade. Students will be given more opportunities to learn at their own pace and to explore their own path to achieve their learning goals. Academic programs and other learning opportunities will foster in students a professional attitude, broaden their cultural experiences, and increase their understanding of civic responsibilities.

### **Strategic Priority 3: Scholarly Research**

Goal: NJIT will achieve a national and international presence in research. The faculty of NJIT will be engaged in increasing knowledge in their respective fields by participating in innovative, prominent research and creative work. The university will provide the necessary and full support administratively, technologically and materially in order to assist the faculty in achieving their full professional potential. To inspire the most creative, innovative research, multidisciplinary approaches will be supported and facilitated.

### **Strategic Priority 4: Community**

Goal: With students from over 100 countries, NJIT represents many different cultures, ethnicities, and ways of life. NJIT values this diversity and will build upon it, striving to expand the representation of women and underrepresented minorities in the faculty and administrative ranks. NJIT will increasingly mirror the global society. To make the university a stronger community, alumni engagement, particularly with students, will be deepened.



### **Strategic Priority 5: Investments**

Goal: NJIT will ensure that the human, physical, and technological resources for student learning and faculty research have the highest priority. The university's faculty will continue to grow in numbers and renown. They will work in the best laboratories with the highest quality equipment and technology infrastructure. All classrooms will accommodate a variety of instructional layouts and will offer the latest technology. A multiyear campus plan for student learning, faculty, research, and community investment will propel NJIT to state, regional, national, and international prominence.

## SECTION II – DATA BY CATEGORY

### A. Accreditation Status

#### II.A.1 Institutional Accreditation

New Jersey Institute of Technology as an institution is accredited by the following organization:

Middle States Commission on Higher Education (MSCHE)



#### II.A.2 Professional Accreditation

Association to Advance Collegiate Schools to Business (AACSB)

Accreditation Board for Engineering and Technology (ABET)

American Chemical Society (ACS)

Council for Interior Design Accreditation (CIDA)

National Architectural Accrediting Board (NAAB)

National Association of Schools of Art and Design (NASAD)





### II.A.3 Statement of Accreditation Status



**MIDDLE STATES COMMISSION ON HIGHER EDUCATION**  
3624 Market Street, Philadelphia, PA 19104-2680. Tel: 267-284-5000. Fax: 215-662-5501  
[www.msche.org](http://www.msche.org)

#### STATEMENT OF ACCREDITATION STATUS

##### NEW JERSEY INSTITUTE OF TECHNOLOGY

University Heights

Newark, NJ 07102-1982

Phone: (973) 596-3000; Fax: (973) 596-1528

[www.njit.edu](http://www.njit.edu)

**Chief Executive Officer:** Dr. Joel S. Bloom, President

#### INSTITUTIONAL INFORMATION

**Enrollment (Headcount):** 8211 Undergraduate; 3106 Graduate

**Control:** Public

**Affiliation:** Government-State- State of New Jersey

**2015 Carnegie Classification:** Doctoral Universities - Higher Research Activity

**Approved Credential Levels:** Bachelor's, Postbaccalaureate Award/Cert/Diploma, Master's, Doctor's - Research/Scholarship;

**Distance Education Programs:** Fully Approved

**Accreditors Recognized by U.S. Secretary of Education:** National Association of Schools of Art and Design, Commission on Accreditation

#### Instructional Locations

**Branch Campuses:** None

**Additional Locations:** Beijing University of Technology, Beijing, China; Mercer County Community College, Windsor, NJ (ANYA)

**Other Instructional Sites:** Central High School (NPS), Newark, NJ; East Orange Board of Education, East Orange, NJ; Essex County Vocational Technical Schools, Newark, NJ; High Point Regional High School, Sussex, NJ; Hillside High School, Hillside, NJ; John E. Dwyer Technology Academy, Elizabeth, NJ; Manasquan High School, Manasquan, NJ; Morris County School of Technology, Denville, NJ; Mt. Olive High School, Flanders, NJ; New Brunswick Public Schools, New Brunswick, NJ; Northern Highlands Regional High School, Allendale, NJ; Northern Valley Regional High School, Demarest, NJ; Passaic Valley Regional High School, Little Falls, NJ; Paterson School District- John F. Kennedy Complex, Paterson, NJ; Rising Star Academy, Union City, NJ; Roselle Park High School, Roselle Park, NJ; School District High School, Warren County Technical High School, Washington, NJ; Sojourn High School, Newark, NJ; St. Benedict's Preparatory, Newark, NJ; The Academy for Math, Science & Engineering- Morris County, Rockaway, NJ; West Morris Central High School, Chester, NJ; West Morris Mendham High School, Mendham, NJ; West Orange School District, West Orange, NJ; Woodbridge Township District High School (Colonia High School), Colonia, NJ

## **ACCREDITATION INFORMATION**

**Status:** Member since 1934

**Last Reaffirmed:** June 28, 2012

### **Most Recent Commission Action:**

July 5, 2017: To acknowledge receipt of the substantive change request. To include the additional location at Mercer County Community College, 1200 Old Trenton Road, Windsor, NJ 08550 within the scope of the institution's accreditation. The Commission requires written notification within thirty days of the commencement of operations at this additional location. Operations at the additional location must commence within one calendar year from the date of this action. To note that the Periodic Review Report has been received and will be acted upon by the Commission at the November meeting.

### **Brief History Since Last Comprehensive Evaluation:**

June 28, 2012: To reaffirm accreditation. To request a progress report, due December 1, 2013, documenting evidence of steps taken to strengthen shared governance (Standard 4). The Periodic Review Report is due June 1, 2017.

August 1, 2013: To note the institution never opened the additional locations in Kochi, India and Thiruvananthapuram, India. To also note that approval has lapsed and to remove the contractual agreement with NeST Group of Companies and these additional locations from the institution's accreditation.

March 6, 2014: To accept the progress report. The Periodic Review Report is due June 1, 2017.

**Next Self-Study Evaluation:** 2021 - 2022

**Date Printed:** July 28, 2017

## **DEFINITIONS**

**Branch Campus** - A branch campus is a domestic or international location of an institution that is geographically apart, independent of the primary/main campus. The branch campus is considered independent of the main campus if it is permanent in nature; offers courses in educational programs leading to a degree, certificate, or other recognized educational credential; has its own faculty and administrative or supervisory organization; and has its own budgetary and hiring authority. (34 CFR §600.2)

**Additional Location** - An additional location is a domestic or international location, other than a branch campus, that is geographically apart from the primary/main campus and at which the institution offers at least 50 percent of the requirements of an educational program. (34 CFR §602.22) **ANYA** ("Approved but Not Yet Active") indicates that the location is included within the scope of accreditation but has not yet begun to offer courses. This designation is removed after the Commission receives notification that courses have begun at this location. **ANYC** ("Approved but Not Yet Closed") indicates that the institution has requested that the location be officially closed through the substantive change process. The location is currently included within the scope of accreditation but the institution will be stopping all operations at this location in the near future. The institution should inform the Commission (via email at [sc@msche.org](mailto:sc@msche.org)) of the date that operations cease. This designation is removed after the Commission receives notification that courses have stopped at this location and the location is no longer listed on the SAS.

**Other Instructional Sites** - MSCHE defines an other instructional site as any off-campus site, other than those meeting the definition of a branch campus or an additional location, at which the institution offers one or more courses for credit. Sites designated as an other instructional site do not require substantive change approval. However, substantive change approval is required to reclassify an other instructional site to or from a branch campus or additional location.

**Distance Education Programs** - Fully Approved, Approved (one program approved) or Not Approved indicates whether or not the institution has been approved to offer diploma/certificate/degree programs via distance education (programs for which students could meet 50% or more of the requirements of the program by taking distance education courses). Per the Commission's Substantive Change policy, Commission approval of the first two Distance Education programs is required to be "Fully Approved." If only one program is approved by the Commission, the specific name of the program will be listed in parentheses after "Approved."

## B. Number of Students Served

NJIT served 11,317 enrolled students in the fall of 2016. In FY2017, NJIT awarded 2,852 degrees, including baccalaureate, master’s, and doctorate, in an array of disciplines. NJIT also awarded 99 post-baccalaureate certificates in FY2017.

### II.B.1 Number of Undergraduate Students by Attendance Status

In fall 2016, 8,211 undergraduates enrolled at NJIT (see Table II.B.1). This represents a 3% increase from fall 2015.

**Table II.B.1**  
**UNDERGRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2016**

	Number	Percent
<b>Full-time</b>	6,180	75.3%
<b>Part-time</b>	2,031	24.7%
<b>Total</b>	8,211	100%

### II.B.2 Number of Graduate Students by Attendance Status

In fall 2016, 3,106 graduate students enrolled at NJIT (see Table II.B.1).

**Table II.B.2**  
**GRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2016**

	Number	Percent
<b>Full-time</b>	1,956	63.0%
<b>Part-time</b>	1,150	37.0%
<b>Total</b>	3,106	100%

#### II.B.4 FY2016 (12-Month) Unduplicated Enrollments

While most students are admitted and enroll at the beginning of each academic year, additional students enroll during the University's other sessions.

**Table II.B.4**  
**UNDULICATED ENROLLMENT, FY16 (IPEDS 12-MONTH)**

	<b>Number</b>	<b>Credit Hours</b>	<b>FTE</b>
<b>Undergraduate</b>	8,992	215,380	7,179
<b>Graduate</b>	3,922	51,378	2,141
<b>Total</b>	12,914	266,758	9,320

## **C. Characteristics of Undergraduate Students**

NJIT students give back to their community, providing over 52,000 hours of community service in Newark and surrounding communities. Some examples of community service efforts include:

- Tutoring at elementary schools in the city of Newark
- Feeding the homeless near Newark Penn Station
- Alternative spring break activities providing medical assistance in poor countries



NJIT also serves elementary and secondary school students and teachers annually through an array of pre-college programs, is home to the summer Girls Who Code program sponsored by Verizon, and hosts the STEM and Industry conference for New Jersey's Governor's STEM Scholars.

A total of 7,222 individuals applied for admission as first-time freshmen to NJIT in fall 2016, up 20% from 2015. The university admitted 59% of these applicants, and 26% of those admitted enrolled at NJIT.

**II.C.1 Mean Math, Reading and Writing SAT Scores**

Fall 2016 freshmen entered NJIT as either regular admits or Educational Opportunity Fund (EOF) admits. By admitting students using different admissions categories, the university provides opportunities to a broader range of students.

Table II.C.1 contains information on the average SAT scores of NJIT’s fall 2016 enrolled full-time and part-time first-time freshmen. It should be noted that the first-time, full-time freshman population differs slightly from the cohort of first-time, full-time undergraduates who are tracked for federal reporting purpose using the IPEDS Graduation Rate Survey (GRS). This is because the IPEDS cohort also includes first-time, full-time students who are admitted above the freshman level because of advanced placement credits.

**Table II.C.1  
MEAN MATH, READING, AND WRITING SAT SCORES FOR FIRST-TIME FRESHMEN BY  
ADMISSION STATUS AND OVERALL, FALL 2016**

<b>Full-Time</b>						
	<b>Math</b>	<b>N</b>	<b>Reading</b>	<b>N</b>	<b>Writing</b>	<b>N</b>
<b>Regular Admits</b>	640.1	815	577.4	815	567.4	815
<b>EOF Admits</b>	602.3	48	541.3	48	518.8	48
<b>Special Admits</b>	0.0	0	0.0	0	0.0	0
<b>All Admits</b>	638.0	863	575.4	863	564.7	863
<b>Missing Scores</b>		166		166		166
<b>Part-Time</b>						
	<b>Math</b>	<b>N</b>	<b>Reading</b>	<b>N</b>	<b>Writing</b>	<b>N</b>
<b>Regular Admits</b>	600.8	38	531.6	38	528.4	38
<b>EOF Admits</b>	0.0	0	0.0	0	0.0	0
<b>Special Admits</b>	0.0	0	0.0	0	0.0	0
<b>All Admits</b>	600.8	38	531.6	38	528.4	38
<b>Missing Scores</b>		7		7		7

**II.C.2 Enrollment in Remediation Courses by Subject Area**

Only 2.2% percent of first-time, full-time students required remediation in one or more areas.

**Table II C.2  
ENROLLMENT IN REMEDIATION COURSES**

**Total Number of Undergraduate Students Enrolled in Fall 2016**

<b>Total Fall 2016 Undergraduate Enrollment</b>	<b>Number of Students Enrolled in One or More Remedial Courses</b>	<b>Percent of Total</b>
8,211	36	0.4%

**Total Number of First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2016**

<b>Total Fall Number of FTFT Students</b>	<b>Number of FTFT Students Enrolled in One or More Remedial Courses</b>	<b>Percent of FTFT Enrolled in One or More Remedial Courses</b>
1,052	23	2.2%

**First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2016 by Subject Area**

<b>Subject Area</b>	<b>Number of FTFT Enrolled In:</b>	<b>Percent of FTFT Enrolled In:</b>
English	23	2.2%

**II.C.3 Race/Ethnicity, Sex, and Age**

In the fall of 2016, 11,317 students enrolled in various programs at New Jersey Institute of Technology, and among them 73% joined at the undergraduate level (8,211).

Seventy-five percent of undergraduates enrolled as full-time, 25% of undergraduates were female, and of those who provided information regarding their ethnicity/race, 32% were Caucasian. The majority of undergraduates were from within the state of New Jersey.

**Table II.C.3.a**  
**UNDERGRADUATE ENROLLMENT BY RACE/ETHNICITY: FALL 2016**

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
<b>White</b>	2,138	34.6%	451	22.2%	2,589	31.5%
<b>Black</b>	474	7.7%	161	7.9%	635	7.7%
<b>Hispanic</b>	1,267	20.5%	348	17.1%	1,615	19.7%
<b>Asian</b>	1,454	23.5%	264	13.0%	1,718	20.9%
<b>American Indian</b>	4	0.1%	1	0.0%	5	0.1%
<b>Alien</b>	305	4.9%	59	2.9%	364	4.4%
<b>Unknown</b>	538	8.7%	747	36.8%	1,285	15.7%
<b>Total</b>	6,180	100.0%	2,031	100.0%	8,211	100.0%

**Table II.C.3.b**  
**UNDERGRADUATE ENROLLMENT BY SEX: FALL 2016**

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
<b>Male</b>	4,778	77.3%	1,399	68.9%	6,177	75.2%
<b>Female</b>	1,402	22.7%	632	31.1%	2,034	24.8%
<b>Total</b>	6,180	100.0%	2,031	100.0%	8,211	100.0%



**Table II.C.3.c**  
**UNDERGRADUATE ENROLLMENT BY AGE: FALL 2016**

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
<b>Less than 18</b>	22	0.4%	94	4.6%	116	1.4%
<b>18-19</b>	1,816	29.4%	287	14.1%	2,103	25.6%
<b>20-21</b>	2,009	32.5%	421	20.7%	2,430	29.6%
<b>22-24</b>	1,629	26.4%	577	28.4%	2,206	26.9%
<b>25-29</b>	499	8.1%	353	17.4%	852	10.4%
<b>30-34</b>	116	1.9%	123	6.1%	239	2.9%
<b>35-39</b>	44	0.7%	72	3.5%	116	1.4%
<b>40-49</b>	18	0.3%	58	2.9%	76	0.9%
<b>50-64</b>	9	0.1%	24	1.2%	33	0.4%
<b>65 and more</b>	0	0.0%	3	0.1%	3	0.0%
<b>Unknown</b>	18	0.3%	19	0.9%	37	0.5%
<b>Total</b>	6,180	100.0%	2,031	100.0%	8,211	100.0%

**II.C.4 Numbers of Students Receiving Financial Assistance Under Each Federal-, State-, and Institution-Funded Aid Program**

During FY2016, undergraduates at NJIT received financial aid from multiple sources, i.e. Federal, State, institution, and other private sources. Aid was provided in the form of scholarships, grants, loans, and waivers.

**Table II.C.4  
FINANCIAL AID FROM FEDERAL, STATE, & INSTITUTION-FUNDED PROGRAMS, FY 2016**

<b>Federal Programs</b>	<b>Recipients</b>	<b>Dollars (\$)</b>	<b>\$ / Recipient</b>
Pell Grants	3,084	12,976,000	4,207.52
College Work Study	273	391,000	1,432.23
Perkins Loans	0	0	--
SEOG	752	295,000	392.29
PLUS Loans	308	4,413,000	14,327.92
Stafford Loans (Subsidized)	3,353	14,692,000	4,381.75
Stafford Loans (Unsubsidized)	2,974	11,781,000	3,961.33
SMART & ACG or Other	0	0	--

<b>State Programs</b>	<b>Recipients</b>	<b>Dollars (\$)</b>	<b>\$ / Recipient</b>
TAG	2,415	18,104,000	7,496.48
EOF	446	680,000	1,524.66
Distinguished Scholars	0	0	--
Urban Scholars	24	24,000	1,000.00
NJ Stars	28	62,000	2,214.29
NJ Class Loans	210	2,897,000	13,795.24
Outstanding Scholars of Other	5	29,000	5,800.00

<b>Institutional Programs</b>	<b>Recipients</b>	<b>Dollars (\$)</b>	<b>\$ / Recipient</b>
Grants/Scholarships	2,505	25,672,000	10,248.30

**II.C.5 Percentage of Students Who Are New Jersey Residents**

Ninety-five percent of undergraduates were from the state of New Jersey during fall 2016.

**Table II.C.5**

**Fall 2016 First-Time Undergraduate Enrollment by State Residence**

<b>State Residents</b>	<b>Non-State Residents</b>	<b>Total</b>	<b>% State Residents</b>
1,050	48	1,098	95.6%

**Fall 2016 Undergraduate Enrollment by State Residence**

<b>State Residents*</b>	<b>Non-State Residents</b>	<b>Total</b>	<b>% State Residents</b>
7,777	434	8,211	94.7%
<i>* includes State unknown</i>			

## D. Student Outcomes

The one-year retention rate of first-time, full-time freshmen (fall 2015 cohort) is approximately 88%. The six-year graduation rate (fall 2010 cohort) is approximately 61%.

### II.D.1 Graduation Rates

**Table II.D.1.a**  
**FOUR-, FIVE- AND SIX-YEAR GRADUATION RATE OF FALL 2010 FULL-TIME, FIRST-TIME DEGREE/CERTIFICATE SEEKING STUDENTS**

Race/Ethnicity	Cohort Size	Graduated in 4 Years		Graduated in 5 Years		Graduated in 6 Years	
		N	Percent	N	Percent	N	Percent
White	200	43	21.5%	106	53.0%	123	61.5%
Black	65	6	9.2%	20	30.8%	28	43.1%
Hispanic	92	15	16.3%	33	35.9%	50	54.3%
Asian	126	25	19.8%	66	52.4%	76	60.3%
Alien	34	20	58.8%	24	70.6%	25	73.5%
Other*	311	100	32.2%	179	57.6%	199	64.0%
Total	828	209	25.2%	428	51.7%	501	60.5%

\* Other includes American Indian, Native Hawaiian & Pacific Islander, Two or More Races and Unknown.

### II.D.2 Third-Semester Retention Rates

**Table II.D.2.a**  
**THIRD-SEMESTER RETENTION OF FIRST-TIME UNDERGRADUATES BY ATTENDANCE STATUS, FALL 2015 TO FALL 2016**

Fall 2015 First-Time Undergraduates	Full-Time		Part-Time		
	Retained in Fall 2016	Retention Rate	Fall 2015 First-Time Undergraduates	Retained in Fall 2016	Retention Rate
1,000	876	87.6%	108	87	80.6%

## E. Faculty Characteristics

A total of 441 full-time faculty (including tenured/tenure-track faculty and non-tenured University Lecturers) taught roughly 61% of all classes.

### II.E.1 Full-Time Faculty by Race/Ethnicity, Gender, and Tenure Status

**Table II.E.1**  
**FULL-TIME FACULTY BY RACE/ETHNICITY, SEX, TENURE STATUS AND ACADEMIC RANK:**  
**FALL 2016**

	White		Black		Hispanic		Asian*		American Indian		Alien		Race Unknown		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
<b>TENURED</b>																
Professors	66	10	5	1	1	0	26	1	0	0	1	0	21	1	120	13
Associate Professors	47	8	2	2	1	1	15	6	0	0	0	0	8	1	73	18
Assistant Professors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Others	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	113	18	7	3	2	1	41	7	0	0	1	0	29	2	193	31
<b>WITHOUT TENURE</b>																
Professors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Associate Professors	2	0	0	0	0	0	3	1	0	0	1	1	0	0	6	2
Assistant Professors	15	7	1	0	2	1	16	4	0	0	12	3	0	0	46	15
All Others	64	33	4	1	5	0	14	5	0	0	9	2	11	0	107	41
Total	81	40	5	1	7	1	33	10	0	0	22	6	11	0	159	58
<b>TOTAL</b>																
Professors	66	10	5	1	1	0	26	1	0	0	1	0	21	1	120	13
Associate Professors	49	8	2	2	1	1	18	7	0	0	1	1	8	1	79	20
Assistant Professors	15	7	1	0	2	1	16	4	0	0	12	3	0	0	46	15
All Others	64	33	4	1	5	0	14	5	0	0	9	2	11	0	107	41
Total	194	58	12	4	9	2	74	17	0	0	23	6	40	2	352	89

**II.E.2 Percentage of Course Sections Taught by Full-Time Faculty**

**Table II.E.2  
PERCENTAGE OF COURSE SECTIONS TAUGHT BY FULL-TIME FACULTY FALL 2016**

	<b>Total</b>	<b>Taught by Full-Time Faculty</b>		<b>Taught by Part-Time Faculty</b>		<b>Taught by Others*</b>	
		Number	Percent	Number	Percent	Number	Percent
<b>**Total Number of Course Sections</b>	1,677	1,025	61.1%	413	24.6%	239	14.3%

\* Other include Full-time Administrators and Teaching Assistants.

\*\* Excludes Service Learning, Co-ops, Labs, Seminars, etc.

**II.E.3 Ratio of Full- to Part-time Faculty**

**Table II.E.3  
RATIO OF FULL-TIME TO PART-TIME FACULTY, FALL 2016**

	<b>Number</b>	<b>Percent</b>
<b>Total number of Full-time Faculty</b>	441	58.2%
<b>Total number of Part-time Faculty</b>	317	41.8%
<b>Total</b>	758	100.0%

**F. Characteristics of the Trustees or Governors**



**II.F.1 Race/Ethnicity and Sex (simultaneously)**

**Table II.F.1  
RACE/ETHNICITY AND SEX OF BOARD OF TRUSTEES AT  
NEW JERSEY INSTITUTE OF TECHNOLOGY, FALL 2016**

	<b>Male</b>	<b>Female</b>	<b>Total</b>
<b>White</b>	9	0	9
<b>Black</b>	0	0	0
<b>Hispanic</b>	0	1	1
<b>Asian</b>	1	1	2
<b>American Indian</b>	0	0	0
<b>Non Resident Alien</b>	0	0	0
<b>Unknown</b>	0	0	0
<b>Total</b>	10	2	12

**II.F.2 List of Trustees/Governors with Titles and Affiliations**

**Table II.F.2  
MEMBERS OF THE BOARD OF TRUSTEES, FALL 2016**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Hon. Christopher J. Christie	Ex-officio	Governor, State of New Jersey
Hon. Ras J. Baraka	Ex-officio	Mayor, City of Newark
Stephen P. DePalma <b>(Chair)</b>	PE, PP, CME '72, Chairman & CEO (Ret.)	Schoor DePalma, Inc.
Lawrence A. Raia <b>(Co-Vice Chair)</b>	PE '65 Partner	Raia Properties
Dr. Vincent L. DeCaprio '72 <b>(Co-Vice Chair)</b>	President & CEO (Ret.)	Vyteris, Inc.

Elizabeth “Liz” Garcia <b>(Co-Vice Chair)</b>	PE '73 Manager Public Affairs (Ret.)	Infineum USA, LP
Philip K. Beachem	President	New Jersey Alliance for Action
Dennis M. Bone	President (Ret.)	Verizon New Jersey, Inc.
Peter A. Cistaro '68	Vice President, Gas Delivery (Ret.)	Public Service Electric and Gas Company
Gary C. Dahms	PE, PP, CME, President & CEO	T&M Associates
Anthony J. Knapp, Jr.	Proprietor (Ret.)	Black Horse Restaurant Group
Ranjini Poddar	President	Artech Information Systems LLC
Dr. Binay Sugla	Chairman	Vesta LLC
Joseph M. Taylor '11 HON	Chairman & CEO (Ret.)	Panasonic Corporation of North America

**II.F.3 URLs of Webpages with Information on Trustees/Governors**

**Table II.F.3  
URL OF WEBPAGE WITH INFORMATION ON TRUSTEES**

URL
<a href="https://www.njit.edu/about/boards/trustees/members.php">https://www.njit.edu/about/boards/trustees/members.php</a>



## **G. Profile of the Institution**

### **II.G.1 Degree and Certificate Programs**

NJIT offers Ph.D. programs in 19 professional areas, master's programs in 46 specialties, 23 Post Baccalaureate Certificate programs and 50 baccalaureate degree programs.

**Table II.G.1**  
**ACTIVE DEGREE AND CERTIFICATE PROGRAMS**

#### College of Architecture and Design

- BS, Architecture
- Bachelor of Architecture
- BA, Digital Design
- BA, Interior Design
- BS, Industrial Design
- Master of Architecture
- MS, Architecture
- MS, Infrastructure Planning
- PhD, Urban Systems

#### College of Science and Liberal Arts

- BS, Applied Physics
- BS, Bachelor of General Studies
- BA, Biology
- BS, Biology
- BS, Biochemistry
- BS, Biophysics
- BA, Communication
- BS, Communication
- BS, Chemistry
- BS, Environmental Science
- BA, Law, Technology and Culture
- BA, Theatre Arts and Technology
- BA, History
- BS, Mathematical Sciences
- BS, Science, Technology & Society
- CRT, Digital Marketing Design Essentials
- CRT, Instructional Design, Evaluation and Assessment
- CRT, Social Media Essentials
- CRT, Technical Communication Essentials
- MS, Applied Mathematics
- MS, Applied Physics

- MS, Applied Statistics
- MS, Biology
- MS, Biostatistics
- MS, Chemistry
- MS, Environmental Science
- MS, Mathematical & Computational Finance
- MS, Material Science and Engineering
- MS, Pharmaceutical Chemistry
- MS, Professional & Tech Communication
- PHD, Applied Physics
- PHD, Biology
- PHD, Environmental Science
- PHD, Material Science and Engineering
- PHD, Chemistry
- PHD, Mathematical Sciences

Martin Tuchman School of Management

- BS, Business
- BS, International Business
- CRT, Engineering Leadership
- CRT, Finance for Managers
- CRT, Management Essentials
- CRT, Management of Technology
- MS, Management
- MBA, Business Administration
- PHD, Business Data Science

Newark College of Engineering

- BS, Biomedical Engineering
- BS, Chemical Engineering
- BS, Concrete Industry Management
- BS, Computer Engineering
- BS, Civil Engineering
- BS, Electrical Engineering
- BS, Engineering Science
- BS, Industrial Engineering
- BS, Mechanical Engineering
- BS, Engineering Technology - Computer Technology
- BS, Engineering Technology - Concrete Industry Management

- BS, Engineering Technology - Construction Engineering Technology
- BS, Engineering Technology - Construction Management Technology
- BS, Engineering Technology - Electrical and Computer Engineering Technology
- BS, Engineering Technology - Manufacturing Engineering Technology
- BS, Engineering Technology - Mechanical Engineering Technology
- BS, Engineering Technology - Medical Informatics Technology
- BS, Engineering Technology - Surveying Engineering Technology
- BS, Engineering Technology - Technology Education
- CRT, Biomedical Device Development
- CRT, Construction Management
- CRT, Pharmaceutical Management
- CRT, Pharmaceutical Manufacturing
- CRT, Power Systems Engineering
- CRT, Project Management
- CRT, Supply Chain Engineering
- CRT, Transportation Studies
- MS, Biomedical Engineering
- MS, Biopharmaceutical Engineering
- MS, Chemical Engineering
- MS, Civil Engineering
- MS, Computer Engineering
- MS, Critical Infrastructure
- MS, Electrical Engineering
- MS, Engineering Management
- MS, Engineering Science
- MS, Industrial Engineering
- MS, Environmental Engineering
- MS, Healthcare Systems Management
- MS, Internet Engineering
- MS, Manufacturing Systems Engineering
- MS, Mechanical Engineering
- MS, Occupational Safety and Health Engineering
- MS, Pharmaceutical Engineering
- MS, Pharmaceutical Systems Management
- MS, Power and Energy Systems
- MS, Telecommunications
- MS, Transportation
- PHD, Biomedical Engineering
- PHD, Computer Engineering
- PHD, Chemical Engineering
- PHD, Civil Engineering
- PHD, Electrical Engineering

- PHD, Environmental Engineering
- PHD, Industrial Engineering
- PHD, Mechanical Engineering
- PHD, Transportation

Ying Wu College of Computing

- BA, Computer Science
- BA, Information Systems
- BS, Business & Information Systems
- BS, Bioinformatics
- BS, Computing & Business
- BS, Computer Science
- BS, Human Computer Interaction
- BS, Information Technology
- BS, Web & Information Systems
- CRT, Big Data Essentials
- CRT, Big Data Management and Mining
- CRT, Business and Information Systems
- CRT, Data Mining
- CRT, IT Administration
- CRT, Network Security and Information Assurance
- CRT, Web Systems Development
- MS, Business & Information Systems
- MS, Bioinformatics
- MS, Computing & Business
- MS, Computer Science
- MS, Cyber Security and Privacy
- MS, Emergency Management and Business Continuity
- MS, Information Systems
- MS, IT Administration & Security
- MS, Software Engineering
- PHD, Computer Science
- PHD, Information Systems

Accelerated Programs

- BS/MS
- B.Arch./MS
- BS/DMD with Rutgers School of Dental Medicine
- BS/MD with Rutgers NJ Medical School

- BS/MD with American University of Antigua, West Indies
- BS/MD with Poncé Health Science University, Puerto Rico
- BS/DPT with Rutgers NJ Medical School (Physical Therapy)
- BS/PA with Rutgers NJ Medical School (Physician Assistant)
- BS/MD with St. George's University Grenada, West Indies
- BS/OD with State University of New York (SUNY) College of Optometry
- BA/BS/MPH with Rutgers School of Public Health (Master's in Public Health)
- BS/JD with Seton Hall University School of Law
- BS/JD with Pace University Law School

Agreements with Secondary Schools

**Bergen County Technical School, Bergen County Academies**

Joint Advancement Standing Admissions Program

**Staten Island Technical School**

Qualified Staten Island Tech students will be admitted to the Albert Dorman Honors College

**Union County Vocational-Technical School District**

UCVTS AIT and MHS students guaranteed admission into a parallel BS program at NJIT

Articulation Agreements with In-State, Two-Year Colleges

**Bergen Community College**

Applied Math, Biology, Biomedical Engineering, Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Computer Technology, Electrical Engineering, Industrial Engineering, Information Technology, Mechanical Engineering

**Bergen Community College Honors Program**

Albert Dorman Honors College

**Brookdale Community College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Computer Technology, Electrical Engineering, Electrical Technology, Engineering Science, Industrial Engineering, Mechanical Engineering

**Burlington County College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Electrical Engineering Technology, Industrial Engineering, Mechanical Engineering

**Camden County College**

Business, Information Technology

**County College of Morris**

Business, Computer Technology, Electrical Engineering Technology, Information Technology, Mechanical Engineering Technology

**Essex County College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Computer Technology, Electrical Engineering, Industrial Engineering, Mechanical Engineering

**Hudson County Community College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Electrical Engineering, Electrical Technology, Industrial Engineering, Information Systems

**Mercer County Community College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Computer Technology, Construction Engineering Technology, Industrial Engineering, Mechanical Engineering, Mechanical Engineering Technology, Surveying Technology

**Middlesex County College**

Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Engineering Technology, Computer Science, Construction Engineering Technology, Electrical Engineering, Electrical Technology, Industrial Engineering

**Ocean County College**

Business, Civil Engineering, Communications and Media, Computer Engineering, Computer Technology, Construction Engineering Technology, Electrical Technology, Surveying Technology

**Passaic County Community College**

Business, Computer Technology, Electrical Engineering Technology

**Raritan Valley Community College**

Applied Math, Biology, Business, Chemical Engineering, Civil Engineering, Computer Engineering, Computer Science, Computer Technology, Electrical Engineering, Engineering Science, Electrical Technology, Environmental Science, Industrial Engineering, Information Technology, Mechanical Engineering, Science Technology and Society

**Sussex County Community College**

Web and Information Systems

**Union County College**

Business, Chemical Engineering, Civil Engineering, Construction Technology, Computer Engineering, Computer Engineering Technology, Computer Science, Electrical Engineering, Electrical Technology, Industrial Engineering, Mechanical Engineering, Mechanical Engineering Technology, Surveying Technology

**Warren County Community College**

Business

Agreements with Out-of-State, Two-Year Colleges

**Lincoln Technical Institute**

A.A.S. degree students transfer to NJIT to pursue BS in Electrical Technology

**Rockland County College**

Electrical Engineering Technology

Agreements with U.S. Four-Year Colleges and Universities (Undergraduate)

**New Jersey City University**

3+2 Dual Degree Program for NJCU students majoring in Applied Physics to transfer to NJIT to pursue BS in Electrical Engineering

**Pace University**

Qualified NJIT students are admitted to Pace University School of Law

**Paul Smith College of Arts and Science**

2+2 program in Surveying Technology

**William Paterson University**

Students complete coursework in the Pre-Engineering program at WPU, then transfer to NJIT to pursue a degree in one of the engineering disciplines

**Seton Hall University**

3+2 Dual Degree Program for SHU students majoring in either Chemistry or Physics to transfer to NJIT to pursue a degree in one of the engineering disciplines

**Stockton State College**

3+2 Liberal Arts/Engineering Dual Degree Program

**Thomas Edison State University**

ASAST students will pursue BS in Engineering Technology degree program at NJIT

**Rutgers University**

Qualified Albert Dorman Honors College students will enroll at the Rutgers School of Public Health to pursue the Masters in Public Health degree

Agreements with International Institutions

**UNDERGRADUATE**

Germany	<b>Technische Universitat Dortmund</b>	Exchange
Italy	<b>Universita degli Studi di Parma</b>	Joint
	<b>Universita degli Studi di Parma / Politecnica de Valencia</b>	Joint
Korea	<b>Hanyang University</b>	Exchange
Sweden	<b>Linkoping University</b>	Exchange

**UNDERGRADUATE/GRADUATE**

Antigua	<b>American University of Antigua</b>	Accelerated Agreement
China	<b>Beijing University of Chemical Technology</b>	Joint/Exchange
	<b>Beijing University of Technology</b>	Exchange
	<b>Qindao University of Technology</b>	Exchange

	<b>Shandong Jianzhu University</b> <b>Wuchang University of Technology</b>	Exchange Exchange
Denmark	<b>Aarhus School of Architecture</b>	Exchange
Egypt	<b>Ain Shams University Ocean County College</b>	Joint/Exchange
France	<b>ESDES School of Management</b> <b>Kedge Business School</b> <b>SKEMA</b>	Joint/Exchange Exchange Exchange
Germany	<b>Hochschule Bremen City University of Applied Sciences</b> <b>Technische Hochschule Ingolstadt</b> <b>University Hochschule Furtwangen</b>	Exchange Exchange Exchange
Greece	<b>University of Piraeus</b>	Exchange
Italy	<b>L'Universita di Siena</b> <b>University of Salerno</b>	Exchange Transfer/Exchange
Jordan	<b>Yarmouk University</b>	Exchange
Saudi Arabia	<b>University of Dammam's College of Computer Science and Information Technology</b>	Exchange
Spain	<b>University of Cantabria</b> <b>University of Catalunya</b>	Exchange Exchange
Taiwan	<b>National Chiao Tung University</b>	Exchange
Thailand	<b>Chulalongkorn University</b>	Joint/Exchange
Turkey	<b>Istanbul Technical University</b>	Exchange

**GRADUATE**

China	<b>Beijing University</b> <b>Sanming University</b>	NJIT Degree Exchange
Germany	<b>Karlsruhe University of Applied Sciences</b>	Exchange/Degree
Italy	<b>Universita degli Studi di Parma</b>	Joint
Lebanon	<b>Holy Spirit University of Kaslik</b> <b>Lebanese American University</b>	Joint Exchange
Sweden	<b>Jonkoping University School of Engineering</b>	Exchange



## H. Major Research and Public Service Activities

### R&D Expenditures: Fiscal Year 2016

Federally Financed Academic R&D Expenditures	\$67,490,000
Institutionally Financed Academic R&D Expenditures	\$46,046,000
Externally Financed Academic R&D Expenditures	\$17,276,000
Total Academic R&D Expenditures	\$130,812,000

### NJIT Research Center and Laboratories



As NJIT moves into the ranks of premier research institutions, it does so strategically. NJIT’s mission is to play a leading role in four emerging areas of multidisciplinary research: Data Science and Information Technology, Life Sciences and Engineering, Sustainable Systems, and Transdisciplinary areas that explore the large systemic changes of innovations such as “smart cities,” for example. NJIT’s research centers and laboratories are organized according to these emerging areas.

### LIFE SCIENCES AND ENGINEERING

#### *Institute for Brain and Neuroscience Research*

*Dr. Namas Chandra and Dr. Farzan Nadim, Co-Directors*

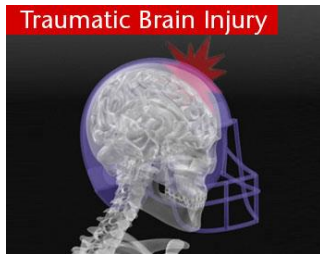
The Institute for Brain and Neuroscience Research (IBNR) focuses on collaborative basic, applied and translational neuroscience research addressing critical challenges in the interdisciplinary areas of brain health, neural engineering, neural circuits and patterns, neurophysiology, and computational neurobiology.



#### *Center for Brain Imaging*

*Dr. Bharat Biswal, Director*

The long-term goal of the Center for Brain Imaging is to better understand human brain function using integrative neuroimaging and statistical and computational modeling methods.



#### *Center for Injury Biomechanics, Materials and Medicine*

*Dr. Namas Chandra, Director*

The Center for Injury Biomechanics, Materials and Medicine (CIBM3) is a multi- and interdisciplinary research center focused on understanding, diagnosing, and treating brain injuries and concussions using experimental and computational methods.

**Center for Membrane Technologies**

*Dr. Kamallesh K. Sirkar, Director*

The Center for Membrane Technologies investigates problems across multiple sectors that use membrane technologies to separate and purify water, air, industrial-fluid streams, solvents, pharmaceuticals, proteins, biopharmaceuticals, cells, particles, and nanoparticles.

**Rehabilitation Engineering Research Center**

*Dr. Richard Foulds and Dr. Sergei Adamovich, Co-Directors*

NJIT and the Kessler Foundation are collaborators in the Rehabilitation Engineering Research Center (RERC), working on wearable robots for independent mobility and manipulation for individuals who have experienced spinal cord injuries, suffer from muscular dystrophy, or have suffered a stroke.



**Circadian Clock Laboratory**

*Dr. Yong-Ick Kim, Director*

The Circadian Clock Laboratory researches the detailed biomolecular mechanisms of the circadian clock – the bodily and behavioral changes tied to the 24-hour daily cycle that respond to daylight and darkness.

**Computational Biophysics Laboratory**

*Dr. Cristiano Dias, Director*

Research in the Computational Biophysics Laboratory concentrates on the development of computational tools to answer complex questions at the intersection of physics, biology, and chemistry for medical and industrial purposes.

**Laboratory of Environmental Microbiology and Biotechnology**

*Dr. Mengyan Li, Director*

The Laboratory of Environmental Microbiology and Biotechnology seeks to make advances in the fields of applied microbiology and molecular biotechnology and to develop innovative techniques to mitigate and address environmental issues related to water and energy.



**Fluid Locomotion Laboratory**

*Dr. Brooke Flammang, Director*

The Fluid Locomotion Laboratory takes a multidisciplinary approach, integrating comparative anatomy and physiology, biomechanics, fluid dynamics, and biologically-inspired robotic devices to investigate the ways in which organisms interact with their environment and drive the evolutionary selection of morphology and function.

***The Keck Laboratory for Topological Materials***

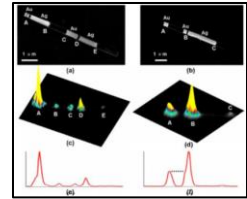
*Dr. Camelia Prodan, Director*

The Keck Laboratory for Topological Materials uses interdisciplinary research to investigate the existence of “topological phonons” in microtubules, a naturally occurring biological material.

***Laboratory of Nanomedicine and Healthcare Biomaterials***

*Dr. Xiaoyang Xu, Director*

The Laboratory of Nanomedicine and Healthcare Biomaterials aims to develop new biomaterials and nanotechnologies for a variety of medical applications, including diagnosis, bioimaging, controlled drug delivery and regenerative medicine.



***Neural Basis of Locomotion Laboratory***

*Dr. Gal Haspel, Director*

The Neural Basis of Locomotion Laboratory studies the neurobiology of locomotion, exploring the question of how nervous systems generate coherent muscle activity to propel animals in their environment.

***Neural Dynamics Laboratory***

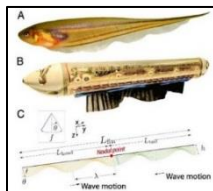
*Dr. Farzan Nadim, Director*

The Neural Dynamics Laboratory studies neurons and the circuits they form, as well as neuronal signaling, using both experimental and theoretical approaches to explore the basic patterned electrical activity underlying most rhythmic behaviors like walking and breathing in all animals.

***Neural Engineering for Speech and Hearing Laboratory***

*Dr. Antje Ihlefeld, Director*

The Neural Engineering for Speech and Hearing Laboratory examines how the brain processes sound through psychophysical, physiological, and computational modeling experiments, with research focusing in particular on the experience of people with hearing loss who use cochlear implants.



***Laboratory for Neuroethology***

*Dr. Eric Fortune, Director*

Research in the Laboratory for Neuroethology focuses on the interactions between sensory and motor systems that are used to generate and control animal behavior.

**Neural Prosthetics Laboratory**

*Dr. Mesut Sahin, Director*

The primary research thrust of the Neural Prosthetics Laboratory is to develop novel and translational neural prosthetic approaches to help restore function in people with disabilities resulting from injuries to the central nervous system such as a spinal-cord injury, traumatic brain injury, and stroke.

**Neuroecology of Unusual Animals Laboratory**

*Dr. Daphne Soares, Director*

How do nervous systems evolve and adapt to extreme environments? The Neuroecology of Unusual Animals Laboratory studies the synthesis of neuroethological and ecological principles to understand the evolution of neural adaptation.

**Opto and Microfluidics Laboratory**

*Dr. Sagnik Basuray, Director*

The Opto and Microfluidics Laboratory establishes synergies among novel nanostructures, optics, biology, and electrokinetics to develop disruptive new technologies in sensors, diagnostics, drug delivery, and biofilms using cost-effective tools.



**SwarmLab**

*Dr. Simon Garnier, Director*

The SwarmLab is an interdisciplinary research unit that explores the mechanisms of Swarm Intelligence, with research focusing on how information is exchanged and transformed during interactions between members of a group and how this leads to “intelligent” group behaviors.

**Tissue Engineering and Applied Biomaterials Laboratory**

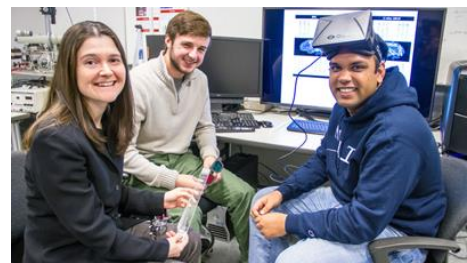
*Dr. Treena Livingston Arinzeh, Director*

The Tissue Engineering and Applied Biomaterials Laboratory develops functional biomaterials for regenerative medicine applications, developing functional biomaterials that impart cues to stem cells, either already present within the body or implanted, to affect their behavior.

**Vision and Neural Engineering Laboratory**

*Dr. Tara Alvarez, Director*

The Vision and Neural Engineering Laboratory studies two potential mechanisms that may cause the vision disorder Convergence Insufficiency (CI) that researchers believe can be improved through therapy. One recent development of the lab is a virtual reality game therapy device being tested at the Children’s Hospital of Philadelphia.



## SUSTAINABLE SYSTEMS

### ***Center for Building Knowledge***

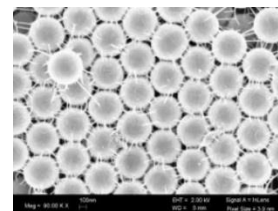
*Deane Evans, Director*

The Center for Building Knowledge (CBK) is dedicated to generating new knowledge to improve the built environment and enhance the planning, design, construction and operation of facilities, helping individuals and communities make better-informed decisions about the performance, sustainability, and resilience of buildings nationwide.

### ***Electronic Imaging Center***

*Dr. Haim Grebel, Director*

The Electronic Imaging Center is an interdisciplinary center focused on nanotechnology, spectral analysis with sub-wavelength structures, and energy.



### ***The Elisha Yegal Bar-Ness Center for Wireless Information Processing***

*Dr. Alexander Haimovich, Director*

The Elisha Yegal Bar-Ness Center for Wireless Information Processing (CWIP) researches diverse areas of communications, signal processing, and radar including cloud radio-access networks, cooperative networks, distributed radar, and acoustics communications.

### ***Membrane Science, Engineering and Technology Center***

*Dr. Kamallesh K. Sirkar, Director*

The Membrane Science, Engineering and Technology Center, a National Science Foundation Industry/University Cooperative Research Center (I/UCRC), conducts basic research and related development on innovative materials and processes that facilitate the use of membrane technology.

### ***Center for Natural Resources Development and Protection***

*Dr. Michel Boufadel, Director*

The Center for Natural Resources Development and Protection investigates practical and efficient approaches to environmental and energy resource utilization, including assessment and remediation studies of pollution in natural settings and the evaluation of natural resources for the potential production of energy, especially renewable energy.

### ***New Jersey Center for Engineered Particulates***

*Dr. Raj Davé, Director*

Creation of advanced particulate materials and products through the engineering of particles is a major research focus of the New Jersey Center for Engineered Particulates (NJCEP).



### ***Center for Solar-Terrestrial Research***

*Dr. Andrew Gerrard, Director*

The Center for Solar-Terrestrial Research (CSTR) is an international leader in ground- and space-based solar and terrestrial physics, with a particular interest in understanding the effects of the Sun on the geospace environment. CSTR is one of the principal investigators in NASA's Van Allen Probes mission that explores the radiation and plasma environment around Earth, and houses the Space Weather

Research Laboratory that conducts scientific research in the area of space weather with the mission to understand and forecast the magnetic activity of the Sun and its impact on Earth.

### ***Center for Solar-Terrestrial Research – Big Bear Solar Observatory***

*Dr. Wenda Cao, Director*

The Center for Solar-Terrestrial Research (CSTR) operates Big Bear Solar Observatory (BBSO) in California, which houses the highest-resolution solar optical telescope in the world at 1.6 meters. With its state-of-the-art adaptive optics and scientific instrumentation, the telescope obtains high-resolution views of the Sun's surface features such as sunspots, filaments, faculae, granulation, spicules and jets.

### ***Center for Solar-Terrestrial Research – Expanded Owens Valley Solar Array***

*Dr. Dale Gary, Director*

The Center for Solar-Terrestrial Research (CSTR) operates the Expanded Owens Valley Solar Array in California, an array that consists of 15 antennae used to image solar flares at hundreds of frequencies within one second.

### ***Advanced Energy Systems and Microdevices Laboratory***

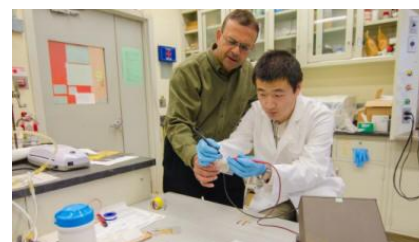
*Dr. Eon Soo Lee, Director*

The Advanced Energy Systems and Microdevices Laboratory's research is focused on the non-platinum group of metal (non-PGM) catalysts to replace PGM catalysts for electrochemical-energy systems such as fuel cells and batteries, and industrial applications such as filtering systems and petroleum-processing systems.

### ***Analytical Chemistry and Nanotechnology Laboratory***

*Dr. Somenath Mitra, Director*

The Analytical Chemistry and Nanotechnology Laboratory researches the fields of analytical chemistry, nanotechnology, and water treatment, focusing on developing instrumentation for environmental monitoring as well as developing carbon nanotubes as adsorbents for various environmental/pharmaceutical pollutants.



***Atmospheric Chemistry Laboratory***

*Dr. Alexei Khalizov, Director*

The Atmospheric Chemistry Lab investigates the origins of atmospheric pollution and evaluates its environmental impacts.

***Controls, Automation, and Robotics Laboratory***

*Dr. Cong Wang, Director; Dr. Lu Lu, Co-Director*

The Controls, Automation, and Robotics (CAR) Laboratory focuses on the development of control theories and their applications to automation and robotics.



***High Performance Concrete and Structures Laboratory***

*Dr. Methi Wecharatana, Director*

The High Performance Concrete and Structures Laboratory researches the fatigue and durability of high-performance, fiber-reinforced concrete and microstructures of high-performance concrete using scanning electron microscopes and transmission electron microscopes.

***Laboratory for the Mechanics of Advanced Materials***

*Dr. Shawn A. Chester, Director*

The primary research goal of the Laboratory for the Mechanics of Advanced Materials is to understand phenomena in solid mechanics, particularly multiphysics material behavior.

***Micro and Nano Mechanics Laboratory***

*Dr. Siva Nadimpalli, Director*

The Micro and Nano Mechanics Laboratory seeks to provide a fundamental understanding of the mechanics of deformation, fracture, degradation, and the failure of solid materials such as metals, ceramics, polymers, and other emerging materials using a combined experimental and modeling approach.



***Nanoelectronics and Energy Conversion Laboratory***

*Dr. Dong-Kyun Ko, Director*

Research in the Nanoelectronics and Energy Conversion Laboratory focuses on the discovery of new nanomaterials, the design of novel high-performance device structures, and the experimental demonstration of device prototypes.

***Nano-Optoelectronic Materials and Devices Laboratory***

*Dr. Hieu P. Nguyen, Director*

The Nano-Optoelectronic Materials and Devices Laboratory develops high-performance nanophotonic and nanoelectronic devices for lighting and energy storage applications.

***Operations Management Laboratory***

*Dr. Wenbo Selina Cai, Director*

The Operations Management Laboratory aims to advance the understanding of the impact of key players' decision-making processes on the design, pricing, and management of products and services in supply-chain management.

***Resilient and Sustainable Infrastructure Materials and Structures Laboratory***

*Drs. Matthew P. Adams and Matthew J. Bandelt, Co-Directors*

The Resilient and Sustainable Infrastructure Materials and Structures Laboratory is a research center focused on improving the knowledge base of materials and structures in the built environment and reengineering them for the future.

***Sustainable Environmental Nanotechnology and Nanointerfaces Laboratory***

*Dr. Wen Zhang, Director*

The Sustainable Environmental Nanotechnology and Nanointerfaces Laboratory integrates concepts and principles of nanotechnology and sustainability into the research and education activities of the environmental engineering discipline.



**DATA SCIENCE AND INFORMATION TECHNOLOGY**

***Center for Big Data***

*Drs. Chase Wu and Yi Chen, Co-Directors*

The mission of the Center for Big Data is to synergize the strong expertise in various disciplines across the NJIT campus and build a unified platform that embodies a rich set of big data-enabling technologies and services with optimized performance to facilitate research collaboration and scientific discovery.

***Center for Computational Heliophysics***

*Dr. Alexander Kosovichev, Director*

The primary goal of the Center for Computational Heliophysics is to develop data analysis and modeling tools in the area of heliophysics – the study and prediction of the Sun's magnetic activity – by combining expertise from computer scientists in the Ying Wu College of Computing and from physicists and mathematicians in the College of Science and Liberal Arts. The Center works in partnership with NASA's Advanced Supercomputing Division at the NASA Ames Research Center.



***Cybersecurity Research Center***

*Drs. Kurt Rohloff and Reza Curtmola, Co-Directors*

The Cybersecurity Research Center seeks to address ongoing and long-term future cybersecurity needs for protection and further economic development across the State of New Jersey, nationally, and internationally by developing new methods for understanding how modern cyber systems can be compromised and fail, how to design cyber systems so they are secure, and how to improve or fix the cyber infrastructure that has already been deployed.

***Leir Center for Financial Bubble Research***

*Dr. William Rapp, Director*

The Leir Center for Financial Bubble Research seeks to understand through quantitative and qualitative research how a financial bubble can be identified, including its stages of development, and what policies can best manage its impacts.

***Structural Analysis of Biomedical Ontologies Center***

*Drs. Yehoshua Perl and James Geller, Co-Directors*

The Structural Analysis of Biomedical Ontologies Center (SABOC) is an interdisciplinary research center linking computer science and medicine, dealing specifically with medical terminologies and ontologies, a subject of study that is a sub-field of Medical Informatics.

***Advanced Networking Laboratory***

*Dr. Nirwan Ansari, Director*

The Advanced Networking Laboratory (ANL) engages in research to improve the performance, dependability, and trustworthiness of telecommunications networks.

***Face Recognition and Video Processing Laboratory***

*Dr. Chengjun Liu, Director*

The Face Recognition and Video Processing Laboratory develops advanced theoretical methods and applies them to solve problems such as facial recognition, image search, video retrieval, big data analytics and visualization.



***Intelligent Internet and Information Systems Laboratory***

*Dr. Songhua Xu, Director*

Research activities in the Intelligent Internet and Information Systems Laboratory focus on web intelligence, online content search, understanding, mining, and recommendation, with particular emphasis on information retrieval and knowledge discovery regarding biomedical contents.

***Social Interaction Laboratory***

*Dr. Donghee Yvette Wohn, Director*

The Social Interaction Lab is an interdisciplinary research hub that combines psychology, communication, computing, and design to understand how people interact with technology, a field known as human-computer interaction (HCI).

**TRANSDISCIPLINARY AREAS**

***Center for Applied Mathematics and Statistics***

*Dr. Lou Kondic, Director*

The Center for Applied Mathematics and Statistics (CAMS) is an interdisciplinary research center dedicated to supporting research in the mathematical sciences focusing on modeling and simulations of the systems belonging to a general category of soft matter, including thin liquid films of nanoscale thickness, liquid crystals, granular matter and, more recently, colloids.

***Enterprise Development Center***

*Jerry Creighton Sr., Director*

The Enterprise Development Center (EDC) is a business-development and commercialization center with an ecosystem designed to advance high-tech and life-science entrepreneurial initiatives.



***Intelligent Transportation Systems Resource Center***

*Dr. Lazar Spasovic, Director*

The Intelligent Transportation Systems (ITS) Resource Center utilizes roadside sensing, information and communication technologies and integrates them into traffic-engineering and management practices with the goals of reducing congestion and improving the mobility, safety, and efficiency of the transportation system in support of sustainable regional growth and economic development.

***New Jersey Innovation Institute***

*Dr. Donald Sebastian, President*

The New Jersey Innovation Institute (NJII) is an NJIT corporation focused on helping private enterprise meet the grand challenges shared across an entire sector while also helping individual companies innovate new product or market opportunities and develop new strategic business partnerships that embrace emerging technology. The five initial iLabs serving as the catalyst for collaboration among the academic, private, and public sectors are healthcare delivery systems, biotechnology and pharmaceutical production, civil infrastructure, defense and homeland security, and financial services.

***Otto H. York Center for Environmental Engineering and Science***

*Dr. Somenath Mitra, Director*

The Otto H. York Center for Environmental Engineering and Science offers core and shared research laboratory facilities as a resource for many interdisciplinary research programs and initiatives including research projects in nanotechnology, drug delivery systems, particle engineering, microfluidics, membrane science, environmental science and engineering, and biomedical engineering.

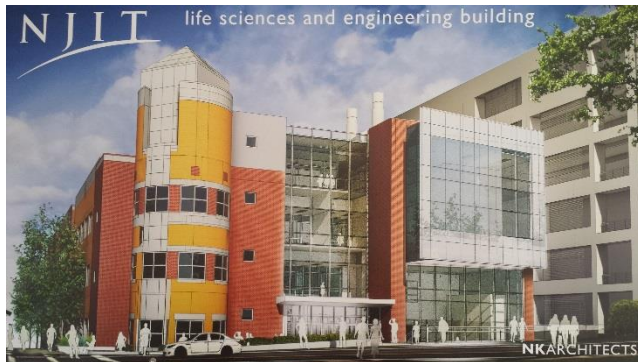


***New Jersey Innovation Acceleration Center***

*Dr. Michael Ehrlich, Director*

The New Jersey Innovation Acceleration Center (NJIAC) is a collaborative resource for entrepreneurs with a focus on helping ventures accelerate their development, achieving more rapid time to market and time to profitability milestones. Another goal of the center is to intensify the connections between the academic and entrepreneurial communities

## I. Major Capital Projects Underway in Fiscal Year 2017



### Life Sciences and Engineering Center

NJIT's \$20 million Life Sciences and Engineering Center, opening in the fall of 2017, is a 24,500 sq. ft., state-of-the-art research facility that promotes trans-disciplinary research through an open, shared environment design. Funded in part by the Higher Education Capital Facilities Program, the building boasts:

- Outdoor plaza and social space
- Multi-use science common area
- Wet and dry labs
- Collaborative space

### Wellness and Events Center

The \$100 million, 200,000 sq. ft. multipurpose project is scheduled to be completed in November of 2017 and will include:

- Conference space
- Natatorium
- Running track
- Indoor turf field
- A 4,000 seat event center / 3,500 seat arena
- Two multipurpose gymnasiums
- Student social interaction space
- Intercollegiate athletics support





### **Science & Technology Park – Parking Facility**

Completed in August of 2016, this \$23 million facility includes seven parking floors plus a surface lot, adding almost 1,000 new parking spaces for students, faculty, staff, and visitors. The parking facility achieved the Green Garage Certification Standard and boasts efficient lighting and controls, electric car charging stations, and bicycle storage.

### **Central King Building**

The former Central High School has been transformed into a state-of-the-art STEM teaching and learning hub. This structure is a critical anchor for teaching and learning at NJIT, with a primary focus on biology. The \$99 million project, completed in January 2017, features the Biological Sciences Education & Research Center and is home to the New Jersey Innovation Institute.



Funded in part by the Higher Education Capital Facilities Program, the new, 224,000 sq. ft. Central King Building also provides:

- New classroom space
- Student study and social interaction spaces
- Exhibition space
- 94 seat computer emporium
- Institute for Teaching Excellence Center
- Tutoring centers

## SECTION III – OTHER INSTITUTIONAL INFORMATION

The New Jersey Institute of Technology has exceptional faculty who educate top students for rewarding careers. Degrees awarded in FY2017 are listed in Section A. Highlights of faculty efforts, including patents, publications and awards are provided in Section B.

### A. Degrees Awarded

Bachelors	Degrees Awarded
<b>BA</b>	<b>145</b>
History	6
Biology	83
Communication	4
Computer Science	8
Digital Design	11
Information Systems	6
Interior Design	18
Law, Technology, & Culture	6
Theater Arts and Technology	3
<b>BAR</b>	<b>99</b>
Architecture	99
<b>BET</b>	<b>199</b>
Computer Technology	21
Concrete Industry Management	13
Construction Engineering Technology	29
Construction Management Technology	7
Electrical & Computer Engineering Technology	49
Mechanical Engineering Technology	62
Medical Informatics Technology	10
Surveying Engineering Technology	8
<b>BGS</b>	<b>7</b>
General Studies	7
<b>BS</b>	<b>1062</b>
Applied Physics	6
Architecture	26
Biochemistry	7
Bioinformatics	3
Biology	11
Biomedical Engineering	64
Biophysics	1
Business	88
Business & Information Systems	11

Chemical Engineering	80
Chemistry	4
Civil Engineering	129
Communication	5
Computer Engineering	41
Computer Science	93
Computing & Business	3
Concrete Industry Management	4
Electrical Engineering	74
Engineering Science	6
Environmental Science	6
Human Computer Interaction	6
Industrial Design	14
Industrial Engineering	28
Information Technology	137
International Business	3
Mathematical Sciences	23
Mechanical Engineering	181
Science, Technology & Society	2
Web & Information Systems	6
<b>Grand Total</b>	<b>1512</b>

<b>Masters</b>	<b>Degrees Awarded</b>
<b>MAR</b>	<b>10</b>
Architecture	10
<b>MBA</b>	<b>50</b>
Business Administration	50
<b>MS</b>	<b>1221</b>
Applied Mathematics	8
Applied Physics	7
Applied Statistics	19
Architecture	5
Bioinformatics	7
Biology	5
Biomedical Engineering	38
Biopharmaceutical Engineering	5
Biostatistics	1
Business & Information Systems	62
Chemical Engineering	28
Chemistry	5
Civil Engineering	98
Computer Engineering	34

Computer Science	291
Computing & Business	1
Cyber Security & Privacy	12
Electrical Engineering	126
Emergency Management & Business Continuity	2
Engineering Management	73
Engineering Science	3
Environmental Engineering	5
Environmental Science	7
Healthcare Systems Management	5
Industrial Engineering	42
Information Systems	117
Infrastructure Planning	3
Interdisciplinary Study	1
Internet Engineering	2
IT Administration & Security	27
Management	28
Manufacturing Systems Engineering	8
Materials Science & Engineering	18
Mathematical & Computational Finance	5
Mechanical Engineering	54
Occupational Safety & Health Engineering	4
Pharmaceutical Chemistry	6
Pharmaceutical Engineering	8
Pharmaceutical Systems Management	5
Power and Energy Systems	13
Professional & Technical Communication	3
Software Engineering	12
Telecommunications	15
Transportation	3
<b>Grand Total</b>	<b>1281</b>

<b>Doctoral</b>	<b>Degrees Awarded</b>
Applied Physics	1
Biology	2
Biomedical Engineering	7
Chemical Engineering	3
Chemistry	3
Civil Engineering	1
Computer Engineering	1
Computer Science	8
Electrical Engineering	10



Environmental Engineering	1
Environmental Science	2
Industrial Engineering	3
Information Systems	1
Materials Science & Engineering	2
Mathematical Sciences	7
Mechanical Engineering	3
Transportation	2
Urban Systems	2
<b>Grand Total</b>	<b>59</b>

<b>Post Baccalaureate Certificates</b>	<b>Degrees Awarded</b>
Big Data Management and Mining	5
Biostatistics Essentials	1
Business and Information Systems	4
Construction Management	21
Data Mining	6
Finance for Managers	3
Information Security	1
IT Administration	3
Management Essentials	2
Management of Technology	8
Network Security and Information Assurance	1
Pharmaceutical Management	3
Power Systems Engineering	2
Project Management	32
Social Media Essentials	1
Software Engineering Analysis/Design	1
Supply Chain Engineering	3
Technical Communication Essentials	1
Web Systems Development	1
<b>Grand Total</b>	<b>99</b>

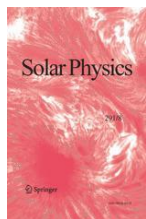
## B. Faculty

Faculty of the New Jersey Institute of Technology are productive in developing intellectual property, conducting research, and publishing and presenting scholarly research. Highlights of some of these activities are provided below.

### III.B.1 Patents

Unexpired Patents/Patents Issued in FY17	23
Pending Patent Applications/Patents Filed in FY17	63

### III.B.2. Select Publications and Presentations



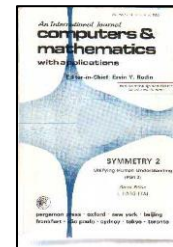
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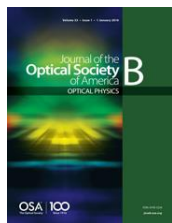
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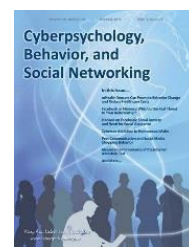
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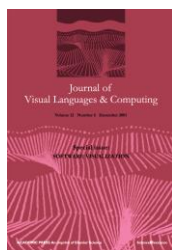


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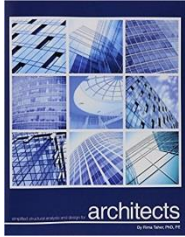


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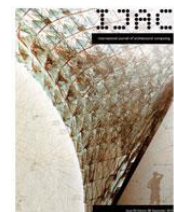
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### III.B.3. Faculty & Administrator Awards

<b>C. Bandera &amp; E. Thomas</b>	Best Research Paper Award, 2017 United States Association for Small Business and Entrepreneurship (USASBE) (“Social Capital, Density, and Startup Survival”)
<b>K. Belfield</b>	Elected Senior Member of Optical Society of America (OSA) Elected Senior Member of the SPIE – the International Society for Optics and Photonics
<b>R. Dave</b>	NJIT Excellence in Research Prize and Medal
<b>A. Dhawan</b>	Named Fellow of International Academy of Medical and Biological Engineering Innovator Award, New Jersey Inventors Hall of Fame
<b>G. Goldman</b>	Honorable Mention, 2016 International Photography Awards Winner, 2016 AIA West Jersey Architectural Photography Competition Finalist, 2017 TZIPAC Annual Black and White Photography Competition
<b>M. Kam</b>	IEEE Haraden Pratt Award
<b>W. Rapp</b>	Best GDP Forecast, Federal Reserve Bank of Chicago
<b>A. Rosato</b>	Elected Fellow of American Academy of Mechanics
<b>H. Schachter</b>	Best Paper with a Student Author, Northeastern Conference of Public Administration
<b>O. Simeone</b>	Named Fellow of IEEE
<b>K. Sirkar</b>	Named Fellow of the National Academy of Inventors
<b>D.Y. Wohn</b>	Best Paper Award, 2017 Eastern Communication Association (“All the news you don’t like: Cross-cutting exposure and political participation on social media”)
<b>H. Zhang</b>	Best Reviewer Award, Annual PDMA Global Conference on Product Innovation Management