NJIT
New Jersey Institute of Technology

Annual Institutional Profile Report

2018

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

September 2018

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September 14, 2018

New Jersey Institute of Technology (NJIT) is proud to present this Institutional Profile highlighting our university's service to the State of New Jersey in education, scholarly and applied research, and economic development during Fiscal Year 2017.

NJIT is proud of its contributions to our state. In education, NJIT prepares students to enter the 21st century workforce in the fields of science, technology, engineering and mathematics, as well as architecture and design, the management of technology, and the history and impact of technology on society. In business, NJIT supports start-up technology companies through one of the nation's largest new business incubators, and expedites the translation of research into viable products through the New Jersey Innovation Institute. In research, NJIT drives innovations in life sciences and engineering, sustainable systems, data science and information technology, and other transdisciplinary areas.

In July of this year, NJIT had the opportunity to bring the City of Newark and the State of New Jersey into the national spotlight when our institution hosted the first-ever VOICE Summit sponsored by Amazon Alexa. The Summit attracted nearly 3,000 professionals - industry leaders and developers at the forefront of both natural language processing and technologies leveraging voice for user engagement. The conference featured more than 150 speakers including NJIT alumnus David Isbitski '98, Amazon's chief evangelist for Alexa and Echo.

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

New Jersey Institute of Technology (NJIT) was founded in 1881 as the Newark Technical School, becoming the Newark College of Engineering in 1930. Today, NJIT 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 11,400 students in the fall of 2017. Total academic research expenditures in fiscal year 2017 reached $142 million.

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 2018, Forbes ranked NJIT #1 among their Best Value Colleges for student economic upward mobility. That is, of Forbes' Best Value Colleges, NJIT had the highest percentage of students from the bottom fifth of the income distribution moving up to the top fifth. The study is based on an analysis by The Equality of Opportunity Project, comparing the financial status of a student's family before they enter college and the graduate's earnings after college.

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

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

In 2014, NJIT developed a strategic plan that established bold goals for the institution along five priorities: 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. Our university is well on its way to reaching the goals established in our *2020 Vision* strategic plan. Results from the mid-cycle report are highlighted below.

Strategic Priority 1: Students

During the time period included in the *2020 Vision* strategic plan, NJIT has grown enrollment and increased freshman and transfer applications while also improving the average composite SAT scores of incoming students. The six-year graduation rate has improved through concerted efforts such as increasing course offerings and providing focused advising.

Strategic Priority 2: Learning

The percentage of students undertaking milestone learning experiences such as co-ops and studying abroad has more than doubled since 2014. At the same time, an increasing number of courses are being offered in alternative formats such as online, converged, and hybrid to make

education accessible to all students. Finally, job placement of bachelor's recipients (six months after graduation) has increased beyond the proposed 2020 target.

Strategic Priority 3: Scholarly Research

Total externally funded research and development has increased by almost 50% since 2014, and the number of grants funding multi-disciplinary research teams has exceeded the 2020 target. Faculty are also publishing more, with the average rate of faculty scholarly publications increasing to 2.6 articles per faculty member per year.

Strategic Priority 4: Community

NJIT continues to enhance its diversity with increases in the populations of women students and faculty. Additionally, programs attracting international exchange students have been successful, with those programs experiencing growth of approximately 50%.

Strategic Priority 5: Investments

Faculty renewal is an ongoing commitment of the university, and by 2017, the number of faculty hired in the past 10 years had almost reached the strategic plan's 2020 target. Student satisfaction with facilities has improved, as has faculty satisfaction with technology on campus.

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

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

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: November 16, 2017

Most Recent Commission Action:

November 16, 2017:	To accept the Periodic Review Report, to reaffirm accreditation, and to commend the institution for the quality of the report and the PRR process. The next evaluation visit is scheduled for 2021-2022.

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 Thiruvanathpuram, 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.
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.

Next Self-Study Evaluation: 2021 - 2022

Date Printed: July 20, 2018

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) 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 11,446 enrolled students in the fall of 2017.

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

Table II.B.1
UNDERGRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2017

	Number	Percent
Full-time	6,380	75.2%
Part-time	2,103	24.8%
Total	8,483	100%

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

Table II.B.2
GRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2017

	Number	Percent
Full-time	1,834	61.9%
Part-time	1,129	38.1%
Total	2,963	100%

II.B.4 FY2017 (12-Month) Unduplicated Enrollments

Table II.B.4
UNDUPLICATED ENROLLMENT, FY2017 (IPEDS 12-MONTH)

	Number	Credit Hours	FTE
Undergraduate	9,366	217,505	7,250
Graduate	3,764	44,945	1,873
Total	13,130	262,450	9,123

C. Characteristics of Undergraduate Students

NJIT students care about the community, providing over 59,000 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 Science Olympiad, and hosts the STEM and Industry conference for New Jersey's Governor's STEM Scholars.

A total of 7,254 individuals applied for admission as first-time freshmen to NJIT in fall 2017. The university admitted 61% of these applicants, and 25% of those admitted enrolled at NJIT.

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

Fall 2017 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 2017 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 purposes 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 2017

Full-Time						
	Math	**N**	**Reading**	**N**	**Writing**	**N**
Regular Admits	660.8	814	0.0	0	627.3	814
EOF Admits	627.3	79	0.0	0	592.3	79
Special Admits	0.0	0	0.0	0	0.0	0
All Admits	657.9	893	0.0	0	624.2	893
Missing Scores		157		1,050		157
Part-Time						
	Math	**N**	**Reading**	**N**	**Writing**	**N**
Regular Admits	631.9	21	0.0	0	621.4	21
EOF Admits	0.0	0	0.0	0	0.0	0
Special Admits	0.0	0	0.0	0	0.0	0
All Admits	631.9	21	0.0	0	621.4	21
Missing Scores		8		29		8

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

Only 4.3% percent of first-time, full-time students required remediation in English.

Table II C.2
ENROLLMENT IN REMEDIATION COURSES

Total Number of Undergraduate Students Enrolled in Fall 2017

Total Fall 2016 Undergraduate Enrollment	Number of Students Enrolled in One or More Remedial Courses	Percent of Total
8,483	61	0.7%

Total Number of First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2017

Total Fall Number of FTFT Students	Number of FTFT Students Enrolled in One or More Remedial Courses	Percent of FTFT Enrolled in One or More Remedial Courses
1,082	46	4.3%

First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2017 by Subject Area

Subject Area	Number of FTFT Enrolled In:	Percent of FTFT Enrolled In:
Computation	0	0.0%
Algebra	0	0.0%
Reading	0	0.0%
Writing	0	0.0%
English	46	4.3%

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

In the fall of 2017, 11,446 students enrolled in various programs at New Jersey Institute of Technology. Seventy-four percent (8,483) of these students enrolled at the undergraduate level.

Seventy-five percent of undergraduates enrolled as full time, and almost 26% of undergraduates were female. The majority of undergraduates were from the state of New Jersey.

Table II.C.3.a
UNDERGRADUATE ENROLLMENT BY RACE/ETHNICITY: FALL 2017

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
White	2,263	35.5%	450	21.4%	2,713	32.0%
Black	472	7.4%	220	10.5%	692	8.2%
Hispanic	1,293	20.3%	376	17.9%	1,669	19.7%
Asian	1,486	23.3%	277	13.2%	1,763	20.8%
American Indian	5	0.1%	2	0.0%	7	0.1%
Native Hawaiian	3	0.0%	0	0.0%	3	0.0%
Alien	308	4.8%	73	3.5%	381	4.5%
Multirace	200	3.1%	57	2.7%	257	3.0%
Unknown	350	5.5%	648	30.8%	998	11.8%
Total	6,380	100.0%	2,103	100.0%	8,483	100.0%

Table II.C.3.b
UNDERGRADUATE ENROLLMENT BY SEX: FALL 2017

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
Male	4,883	76.5%	1,407	66.9%	6,290	74.1%
Female	1,497	23.5%	696	33.1%	2,193	25.9%
Total	6,380	100.0%	2,103	100.0%	8,483	100.0%

Table II.C.3.c
UNDERGRADUATE ENROLLMENT BY AGE: FALL 2017

	Full-Time		Part-Time		Total	
	N	**Percent**	**N**	**Percent**	**N**	**Percent**
Less than 18	24	0.4%	113	5.4%	137	1.6%
18-19	1,861	29.2%	272	12.9%	2,133	25.1%
20-21	2,187	34.3%	463	22.0%	2,650	31.2%
22-24	1,588	24.9%	592	28.2%	2,180	25.7%
25-29	518	8.1%	368	17.5%	886	10.4%
30-34	117	1.8%	152	7.2%	269	3.2%
35-39	52	0.8%	64	3.0%	116	1.4%
40-49	24	0.4%	57	2.7%	81	1.0%
50-64	9	0.1%	20	1.0%	29	0.3%
65 and more	0	0.0%	1	0.0%	1	0.0%
Unknown	0	0.0%	1	0.0%	1	0.0%
Total	6,380	100.0%	2,103	100.0%	8,483	100.0%

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

During the 2016-2017 academic year, 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, AY2016-2017

Federal Programs	Recipients	Dollars ($)	$ / Recipient
Pell Grants	3,098	13,052,000	4,213.04
College Work Study	277	473,000	1,707.58
Perkins Loans	0	0	--
SEOG	891	338,000	379.35
PLUS Loans	331	4,907,000	14,824.77
Stafford Loans (Subsidized)	4,063	14,465,000	3,560.18
Stafford Loans (Unsubsidized)	2,951	11,683,000	3,959.00
SMART & ACG or Other	0	0	--

State Programs	Recipients	Dollars ($)	$ / Recipient
Tuition Aid Grants (TAG)	2,416	18,277,000	7,564.98
Educational Opportunity Fund (EOF)	422	589,000	1,395.73
Outstanding Scholars (OSRP) or other	0	0	--
Distinguished Scholars	4	14,000	3,500.00
Urban Scholars	27	26,000	962.96
NJ STARS	17	32,000	1,882.35
NJCLASS Loans	184	2,636,000	14,326.09

Institutional Programs	Recipients	Dollars ($)	$ / Recipient
Grants/Scholarships	2,880	28,345,000	9,842.01
Loans	0	0	--

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

Ninety-seven percent of first-time undergraduates were from the state of New Jersey in the fall 2017 cohort.

Table II.C.5

Fall 2017 First-Time Undergraduate Enrollment by State Residence

State Residents*	Non-State Residents	Total	% State Residents
1,085	29	1,114	97.4%
** Residence unknown included with New Jersey residents*			

D. Student Outcomes

The one-year retention rate of first-time, full-time freshmen (fall 2016 cohort) is 88%, and the six-year graduation rate has increased by 3% to a total of 64% for the fall 2011 cohort.

II.D.1 Graduation Rates

Table II.D.1.a
FOUR-, FIVE- AND SIX-YEAR GRADUATION RATE OF FALL 2011 FULL-TIME, FIRST-TIME DEGREE/CERTIFICATE SEEKING STUDENTS

Race/Ethnicity		Graduated in 4 Years		Graduated in 5 Years		Graduated in 6 Years	
	Cohort Size	N	Percent	N	Percent	N	Percent
White	351	116	33.0%	229	65.2%	251	71.5%
Black	82	9	11.0%	25	30.5%	34	41.5%
Hispanic	167	31	18.6%	72	43.1%	87	52.1%
Asian	196	66	33.7%	131	66.8%	142	72.4%
Alien	28	12	42.9%	15	53.6%	16	57.1%
Other*	73	14	19.2%	34	46.6%	40	54.8%
Total	897	248	27.6%	497	55.4%	570	63.5%

* *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 2016 TO FALL 2017

Full-Time			Part-Time		
Fall 2016 First-Time Undergraduates	Retained in Fall 2017	Retention Rate	Fall 2016 First-Time Undergraduates	Retained in Fall 2017	Retention Rate
1,050	919	87.5%	46	30	65.2%

E. Faculty Characteristics

A total of 425 full-time faculty (including tenured/tenure-track faculty and non-tenured University Lecturers) taught classes in Fall 2017.

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 2017

	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**
TENURED																
Professors	66	10	4	1	1	0	31	2	0	0	0	0	24	1	126	14
Associate Professors	45	8	1	2	1	0	15	6	0	0	0	0	5	1	67	17
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	111	18	5	3	2	0	46	8	0	0	0	0	29	2	193	31
WITHOUT TENURE																
Professors	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Associate Professors	1	1	0	0	0	0	2	1	0	0	1	1	0	0	4	3
Assistant Professors	17	11	0	0	3	2	19	4	0	0	13	5	0	0	52	22
All Others	53	34	4	2	4	0	7	4	0	0	4	0	8	0	80	40
Total	71	46	4	2	7	2	28	9	0	0	18	6	8	0	136	65
TOTAL																
Professors	66	10	4	1	1	0	31	2	0	0	0	0	24	1	126	14
Associate Professors	46	9	1	2	1	0	17	7	0	0	1	1	5	1	71	20
Assistant Professors	17	11	0	0	3	2	19	4	0	0	13	5	0	0	52	22
All Others	53	34	4	2	4	0	7	4	0	0	4	0	8	0	80	40
Total	182	64	9	5	9	2	74	17	0	0	18	6	37	2	329	96

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 2017

		Taught by Full-Time Faculty		Taught by Part-Time Faculty		Taught by Others*	
	Total	Number	Percent	Number	Percent	Number	Percent
****Total Number of Course Sections**	1,626	1,005	61.8%	504	31.0%	117	7.2%

* *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 2017

	Number	Percent
Total number of Full-time Faculty	425	56.2%
Total number of Part-time Faculty	331	43.8%
Total	756	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 2017

	Male	Female	Total
White	9	1	10
Black	0	0	0
Hispanic	0	1	1
Asian	0	0	1
American Indian	0	0	0
Non Resident Alien	0	0	0
Unknown	0	0	0
Total	9	2	11

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

Table II.F.2
MEMBERS OF THE BOARD OF TRUSTEES, FALL 2017

Name	Title	Affiliation
Hon. Philip D. Murphy, ex-officio	Governor	State of New Jersey
Hon. Ras J. Baraka, ex-officio	Mayor	City of Newark
Stephen P. DePalma PE, PP, CME ’72 (*Chair*)	Chairman and CEO (Retired)	Schoor DePalma, Inc.
Lawrence A. Raia PE ’65 (*Co-Vice Chair*)	Partner	Raia Properties
Robert C. Cohen ’83, ’84, ’87 (*Co-Vice Chair*)	Vice President, Global Research and Development Chief Technology Officer	Stryker Orthopaedics

Dr. Vincent L. DeCaprio ’72 (*Co-Vice Chair*)	President (Retired)	Vyteris, Inc.
Joseph M. Taylor ’11 (HON) (*Co-Vice Chair*)	Chairman and CEO (Retired)	Panasonic Corporation of North America
Elizabeth (Liz) Garcia PE ’73	Manager, Public Affairs (Retired)	Infineum USA, LP
Dennis M. Bone	President (Retired)	Verizon New Jersey, Inc.
Peter A. Cistaro ’68	Vice President, Gas Delivery (Retired)	Public Service Electric and Gas Company
Gary C. Dahms PE, PP, CME	President and CEO	T&M Associates
Diane Montalto ’82	President	DSA Engineering, LLC
Dennis M. Toft, Esq.	Environmental, Regulatory Attorney	Chiesa Shahinian & Giantomasi PC

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

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

URL
https://www.njit.edu/boards/board-trustees-membership/

G. Profile of the Institution

II.G.1 Degree and Certificate Programs

In Fall 2017, NJIT had 19 active Ph.D. programs, active master's programs in 43 specialties, 23 Post Baccalaureate Certificate programs and 49 active baccalaureate degree programs.

Table II.G.1
ACTIVE DEGREE AND CERTIFICATE PROGRAMS

College of Architecture and Design

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

College of Science and Liberal Arts

- BA, Biology
- BA, Communication and Media
- BA, History
- BA, Law, Technology & Culture
- BA, Theatre Arts & Technology
- BGS, Bachelor of General Studies
- BS, Applied Physics
- BS, Biochemistry
- BS, Biology
- BS, Biophysics
- BS, Chemistry
- BS, Communication & Media
- BS, Environmental Science
- 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, Material Science & Engineering
- MS, Mathematical & Computational Finance
- MS, Pharmaceutical Chemistry
- MS, Professional & Technical Communication
- PHD, Applied Physics
- PHD, Biology
- PHD, Chemistry
- PHD, Environmental Science
- PHD, Material Science and Engineering
- 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
- MBA, Business Administration
- MS, Management
- PHD, Business Data Science

Newark College of Engineering

- BS, Biomedical Engineering
- BS, Chemical Engineering
- BS, Civil Engineering
- BS, Computer Engineering
- BS, Concrete Industry Management
- 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
- 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, Environmental Engineering
- MS, Healthcare Systems Management
- MS, Industrial 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, Chemical Engineering
- PHD, Civil Engineering
- PHD, Computer 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, Bioinformatics
- BS, Business & Information Systems
- BS, Computer Science
- BS, Computing & Business
- 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, Bioinformatics
- MS, Business & Information Systems
- MS, Computer Science
- MS, Computing & Business
- MS, Cyber Security and Privacy
- MS, Data Science
- MS, Information Systems
- MS, IT Administration & Security
- MS, Software Engineering
- PHD, Computer Science
- PHD, Information Systems

Accelerated Programs

- BA/MA
- BS/MS
- BS/MBA
- B.Arch./MS
- BS/PhD
- 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

STEM Innovation Academy of the Oranges
Approved NJIT courses offered on site

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

New York Institute of Technology College of Osteopathic Medicine
Early Interview Assurance Program

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

Ponce Health Sciences University
Undergraduate program leading to BA-MD Degrees

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	**Technische Universitat Dortmund**	Exchange
Ireland	**Galway-Mayo Institute of Technology**	Exchange/Transfer
Italy	**Universita degli Studi di Parma**	Joint
Korea	**Hanyang University**	Exchange
Sweden	**Jonkoping University**	Exchange

	Linkoping University	Exchange
Turkey	**Istanbul Technical University**	Joint
UNDERGRADUATE/GRADUATE		
Antigua	**American University of Antigua**	Accelerated Degree Agreement
Austria	**Universitat Innsbruck**	Exchange
China	**Beijing University of Chemical Technology** **Beijing University of Technology** **Qingdao University of Technology** **Wuchang University of Technology**	Joint/Exchange Exchange Joint/Exchange Exchange
Denmark	**Aarhus School of Architecture**	Exchange
France	**Centrale Nantes** **Kedge Business School** **SKEMA**	Exchange Exchange Exchange
Germany	**Hochschule Bremen City University of Applied Sciences** **Technische Hochschule Ingolstadt** **University Hochschule Furtwangen**	Exchange Exchange Exchange
Greece	**University of Piraeus**	Exchange
Italy	**L'Universita di Siena**	Exchange
Jordan	**Yarmouk University**	Exchange
Saudi Arabia	**University of Dammam's College of Computer Science and Information Technology**	Exchange
Spain	**University of Cantabria** **University of Catalunya** **Universidad Nebrija** **Universidad Pontificia Comillas**	Exchange Exchange Exchange Exchange
Sweden	**Jonkoping University School of Engineering and Business**	Exchange
Taiwan	**National Chiao Tung University**	Exchange
Thailand	**Chulalongkorn University**	Joint/Exchange
Turkey	**Istanbul Technical University**	Exchange

GRADUATE		
China	**Beijing University**	NJIT Degree
Germany	**Karlsruge University of Applied Sciences** **Universitat Passau**	Exchange/Degree Joint
Italy	**Universita degli Studi di Parma**	Joint
Lebanon	**Holy Spirit University of Kaslik** **Lebanese American University**	Joint Exchange
FACULTY/STAFF		
Ireland	**Dublin Institute of Technology**	Exchange

H. Major Research and Public Service Activities

R&D Expenditures: Fiscal Year 2017

Federally Financed Academic R&D Expenditures	$80,500,000
Institutionally Financed Academic R&D Expenditures	$48,700,000
Externally Financed Academic R&D Expenditures	$13,000,000
Total Academic R&D Expenditures	$142,000,000

NJIT Research Institutes, Centers 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 institutes, centers and laboratories are organized according to these emerging areas.

LIFE SCIENCES AND ENGINEERING

INSTITUTES

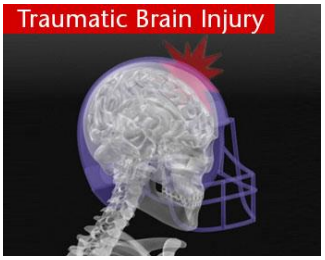
Institute for Brain and Neuroscience Research
Dr. Namas Chandra and Dr. Farzan Nadim, Co-Directors

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.

CENTERS

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. Kamalesh 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.

Center for Rehabilitation Robotics
Dr. Sergei Adamovich and Dr. Richard Foulds, 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.

LABORATORIES

Biophotonics & Bioimaging Laboratory
Dr. Kevin D. Belfield and Dr. Yuanwei Zhang, Co-Directors

The Biophotonics and Bioimaging Laboratory combines diverse chemical and biological approaches to develop novel biomaterials and techniques to explore pathological processes. The lab investigates fundamental principles and develops new methods for the interaction of light with biological organisms, tissues, cells and molecules, an area that is regarded as key science for the next generation of clinical tools and biomedical research instruments.

Cardiovascular Tissue Engineering and Stem Cell Laboratory
Dr. Eon Jung Lee, Director

The Cardiovascular Tissue Engineering and Stem Cell Laboratory has several focuses: 1) developing functional engineered cardiovascular tissues using novel biomaterials and custom-designed bioreactor systems; 2) identifying novel strategies to enhance the growth of cardiac and vascular tissues in vitro by examining the effects of physical, mechanical, and chemical stimuli on stem cell differentiated cardiac and vascular cells using 3D engineered tissue models; 3) investigating tissue engineering approaches to develop microvascular formation in vitro; and 4) developing vascularized insulin-producing tissues for diabetes treatment.

Catalysis and Photoelectrochemistry Laboratory
Dr. Yong Yan, Director

The Catalysis and Photoelectrochemistry Laboratory investigates catalytic materials and methods to convert water, air, solar energy and small organic molecules into fuels and value-added chemical feedstocks. The future of clean energy and green products depends heavily on innovative breakthroughs in the design of efficient systems for the conversion and storage of solar energy.

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.

Computational Neuroanatomy and Neuroinformatics (CNN) Laboratory
Dr. Xiaobo Li, Director

The goal of the Computational Neuroanatomy and Neuroinformatics (CNN) Laboratory is to fill the gaps in the field of neurobiology and neuroimaging, particularly the lack of systematic construction of models for quantitative neurobiological criteria that can aid clinical diagnoses of cognitive dimensional deficits associated with severe brain disorders. The research of the CNN Lab focuses on development and implementations of analytic and statistical models for providing quantitative biological criteria that help diagnose cognitive defects by integrating high-dimensional, multi-modal MR neuroimaging, clinical and behavior data and refined imaging analysis and machine learning techniques.

Computer-Assisted Tissue Engineering and Blood System Biology Laboratory
Dr. Roman Voronov, Director

The Computer-Assisted Tissue Engineering and Blood System Biology Laboratory focuses on high-performance, image-based modeling of complex flows with applications ranging from bone tissue engineering and blood systems biology to drug delivery. The lab's two major projects involve developing computer-assisted tissue engineering technologies through predictive modeling of stem cell behavior and the control of single-cell migration, and investigating the mechanisms of blood clot formation which is relevant to thrombotic disorders such as strokes, heart attaches and hemophilia.

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.

Human Motion Research Laboratory
Dr. Saikat Pal, Director

The focus of the Human Motion Research Laboratory is to decode human movement using experiments and mathematical simulations, develop predictive and personalized methods for diagnosis of musculoskeletal disorders, and improve orthopaedic biomechanics and the design of implants.

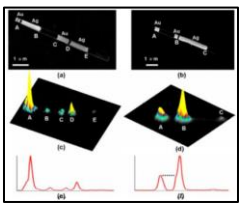
Instructive Biomaterials and Additive Manufacturing Laboratory (IBAM-Lab)
Dr. Murat Guvendiren, Director

The Instructive Biomaterials and Additive Manufacturing Laboratory (IBAM-Lab) develops novel biodegradable polymers and hydrogels and fabricates biomaterials, medical devices and tissue-engineered organs using additive manufacturing. Additionally, IBAM-Lab devises novel strategies for biomimetic material design, stimuli-responsive materials, surface patterning and photopolymerization.

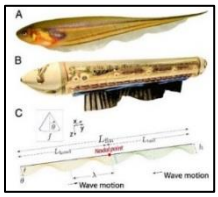
The Keck Laboratory for Topological Materials
Dr. Camelia Prodan, Director

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.



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.

Nanoparticle Research Laboratory
Dr. Kathleen McEnnis, Director

The Nanoparticle Research Laboratory investigates the interaction of polymer drug delivery vehicles with the biological environment (cells, blood, proteins, and physiological temperature) using physical chemistry techniques in novel ways to design particles for drug delivery. Specifically, the lab investigates: 1) novel techniques to analyze nanoparticles in blood, 2) nanoparticle aggregation and protein corona formation in blood, 3) particle glass transition temperature in biological conditions, and 4) cellular uptake of particles and the role of particle material properties.

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.

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.

Neural Tissue Engineering Research Laboratory
Dr. Vivek Kumar, Director

The Neural Tissue Engineering Research Laboratory focuses on biomaterials, drug discovery, delivery and development. Specifically, the lab works to develop a number of small molecular and biomaterial-based therapeutics for inflammation modulation, angiogenesis, drug delivery, dental tissue engineering, and soft tissue engineering.

Neuroecology of Unusual Animals Laboratory
Dr. Daphne Soares, Director

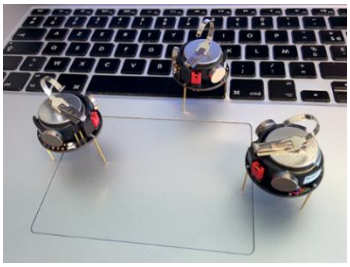
How do nervous systems evolve and adapt to extreme environments? The Neuroecology of Unusual Animals Laboratory studies the synthesis of neuroethological and ecological principles to understand the evolution of neural adaptation.

Neurovascular Systems Research Laboratory
Dr. James Haorah, Director

The Neurovascular Systems Research Laboratory examines the underlying molecular, biochemical, and cellular mechanisms of damage to blood-brain barrier and neurovascular units during substance abuse, blast-wave brain injury or HIV infection. Specifically, the lab investigates such areas as impairment of glucose transport/metabolism and neurodegeneration, animal modeling of atherosclerosis, and mechanisms of Wernicke's neuropathy in chronic alcohol abuse.

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

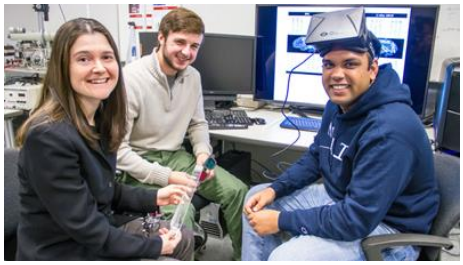
The Tissue Engineering and Applied Biomaterials Laboratory develops functional biomaterials for regenerative medicine applications, developing functional biomaterials that impart cues to stem cells, either already present within the body or implanted, to affect their behavior.

Vertebrate Motor Circuits and Behavior Laboratory
Dr. Kristen Severi, Director

The Vertebrate Motor Circuits and Behavior Laboratory investigates the neural circuits in the brain and spinal cord that control locomotion by studying larval zebrafish. Due to the transparency of these fish, neurons can be marked and observed while performing motor actions, providing a greater understanding of the specific circuits that are essential for performing motor actions and how those circuits interact.

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.



SUSTAINABLE SYSTEMS

CENTERS

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.

Center for Energy Efficiency, Resilience and Innovation
Dr. Haim Grebel, Director

The Center for Energy Efficiency, Resilience and Innovation (CEERI) conducts research and development in the area of sustainable technologies and applications related to energy. CEERI provides technical and educational assistance for the deployment of sustainable technologies and applications to manage energy and related resources and promotes public awareness of energy resources.

Center for Natural Resources
Dr. Michel Boufadel, Director

The Center for Natural Resources 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.

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.

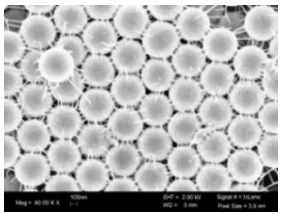
Center for Solar-Terrestrial Research – Big Bear Solar Observatory
Dr. Wenda Cao, Director

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.

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 (MAST) Center
Dr. Kamalesh 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.

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).

Polar Engineering Development Center (PEDC)
Dr. Andrew Gerrard, Director

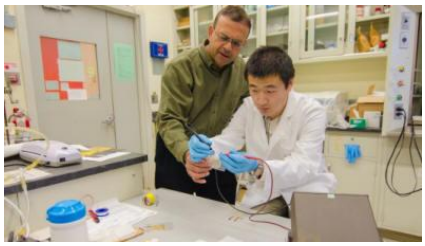
The Polar Engineering Development Center (PEDC), housed within NJIT's Center for Solar-Terrestrial Research (CSTR), focuses on instrument and hardware design for deployment at high latitudes and Polar regions. Originally founded in the 1980s as part of the National Science Foundation-supported Automatic Geophysical Observatory (AGO) program, today the PEDC serves the broader astrophysical and geospace scientific communities conducting research in Polar environments, managing instruments at South Pole Station, McMurdo Station, Palmer Station and across the Antarctic ice shelf.

LABORATORIES

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.

Applied Electrohydrodynamics Laboratory
Dr. Boris Khusid, Director

The Applied Electrohydrodynamics Laboratory explores electric and magnetic field-driven phenomena in suspensions that are mixtures of solid particles and a liquid. Ongoing projects focus on understanding how the electric and magnetic interactions between particles affect their arrangement and thereby their suspension properties.

Atmospheric Chemistry Laboratory
Dr. Alexei Khalizov, Director

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

Computational Laboratory for Porous Materials
Dr. Gennady Gor, Director

The main focus of the Computational Laboratory for Porous Materials is nanoporous materials - solids with pores of 100 nanometers and below - that play a significant role in both nature and technology. The lab's approaches are purely theoretical, using various modeling techniques to represent phenomena at the nanoscale: Monte Carlo simulations, molecular dynamics, density functional theory and finite element analysis.

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.

Computational Nanomechanics and Materials Science Laboratory
Dr. Dibakar Datta, Director

The Computational Nanomechanics and Materials Science Laboratory models energy storage systems such as rechargeable batteries, investigates mechanics and electronics of nanomaterials (e.g. graphene) and other two-dimensional materials, models imperfections in crystalline materials, and studies nanomaterials for biological problems.

Environmental Science Laboratory
Dr. Yong Kim, Director

The Environmental Science Laboratory studies the biochemical mechanisms underlying circadian rhythms, the bodily and behavioral changes tied to the 24-hour daily cycle that are responsive to light and darkness. Research to date has focused on pinpointing the activation and inhibition of proteins integral to regulating the circadian clock and on the biochemical mechanisms that reset it.

Environmental Systems Laboratory
Dr. Lisa B. Axe, Director

The Environmental Systems Laboratory focuses on investigating chemical and physical processes in environmental systems using a suite of analyses to study the effects of surface chemistry on contaminant transport and attenuation. A primary goal is to advance understanding of interfacial processes, the interaction between minerals and chlorinated solvents, and their impact on water quality and contaminant mobility and bioavailability.

Geo-resources and Geotechnical Laboratory
Dr. Bruno M. Goncalves da Silva, Director

The focus of the Geo-resources and Geotechnical Laboratory is the experimental and numerical study of the fracturing processes of rocks subject to various loading conditions in the context of resource exploitation. Other areas of interest include the development of materials, as well as design and construction methods to improve the resilience of underground structures such as tunnels and caverns.

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.

Intelligent and Assistive Robotics Laboratory
Dr. Lu Lu, Director

The Intelligent and Assistive Robotics Laboratory focuses on two areas: intelligent robotics and assistive robotics. Intelligent robotics deal with the novel design and control of robots that intelligently execute various tasks. Assistive robotics focuses on using robots to help humans in need.

Intelligent Transportation Systems Laboratory
Dr. Jo Young Lee, Director

The Intelligent Transportation Systems (ITS) Laboratory explores Connected Vehicles (CV) and their applications to traffic management (i.e. CV-based traveler information system), traffic signal controls (i.e. CV-based real-time intersection control), and cooperative vehicle intersection control (CVIC) for autonomous cars.

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.

Laboratory of Applied Biogeochemistry for Environmental Sustainability
Dr. Lucia Rodriguez Freire, Director

The Laboratory of Applied Biogeochemistry for Environmental Sustainability investigates the mechanisms of interaction between biological and inorganic systems to examine the effect of contaminants on natural biogeochemical cycles in order to predict, avoid, and remediate current and future pollution, engineer highly efficient and sustainable resource-recovery technologies from agricultural, industrial and mining waste, and

design state-of-the-art wastewater treatment systems to remove persistent contaminants in the environment using ubiquitous, inexpensive materials.

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.

Multiphase Mixing Laboratory
Dr. Piero Armenante, Director

The Multiphase Mixing Laboratory is dedicated to the study of single- and multi-phase mixing phenomena, such as those occurring in industrial stirred tanks and reactors, involving single fluids – primarily liquids with different rheological properties – in the presence or absence of one or more additional phases, such as fine solid particles, a dispersed gas or an immiscible liquid. Additionally, numerical tools, including computational fluid dynamics and theoretical process modeling such as mass transfer models are used to determine how mixing affects processes and how it can be modified to improve outcomes.

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.

Nanomaterials for Energy and Environment Labs (NEEL)
Dr. Xianqin Wang, Director

The goals of the Nanomaterials for Energy and Environment Labs (NEEL) are to develop advanced functional nanomaterials for sustainable energy production and environmental protection, and to investigate the structure and reactivity of catalytic systems under operational conditions such as high pressure and temperature.

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.

Numerical Fluid Dynamics Laboratory
Dr. Simone Marras, Director

The research of the Numerical Fluid Dynamics Laboratory concentrates on the development of numerical methods for the simulation of turbulent compressive flows and aerodynamic sound generation.

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.

Optical Engineering Laboratory
Dr. Xuan Liu, Director

The Optical Engineering Laboratory investigates biomedical optics including optical coherence tomography, endoscopic microscopy, fiber optics for biomedical applications, optical image processing, and coherent scattering.

Optimized Networking Laboratory
Dr. Abdallah Khreishah, Director

The Optimized Networking Laboratory engages in research to improve the performance of wireless and wireline networks and to utilize these networks in emerging applications. The goals of the lab are to identify, model, simulate and demonstrate proof-of-concept setups for next generation networking technologies.

Particle Engineering and Pharmaceutical Nanotechnology Laboratory
Dr. Ecevit Bilgili, Director

The Particle Engineering and Pharmaceutical Nanotechnology Laboratory designs advanced particulate formulations and processes for various high-value-added product industries such as the pharmaceutical, flavors and fragrances, nutraceuticals and agrochemical industries. The lab couples experimentation with population balance modeling, discrete element modeling, computational fluid dynamics and microhydrodynamic modeling to elucidate complex non-linear rate processes that occur in manufacturing operations.

Reactive and Energetic Materials Laboratory
Dr. Edward L. Dreizin, Director

The focus of the Reactive and Energetic Materials Lab is to design and characterize new metal-based reactive materials with accelerated reaction rates. The lab also works on mechanistic models describing ignition and combustion of metals and metal-based reactive materials that can be used to describe the performance of complex energetic systems.

Resilient and Sustainable Infrastructure Materials and Structures Laboratory
Dr. Matthew P. Adams and Dr. 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.

Space Weather Research Laboratory
Dr. Haimin Wang, Director

The Space Weather Research Laboratory (SWRL) focuses on scientific research in the area of space weather. Its mission is to understand the magnetic activities of the Sun and their effects on the near-Earth environment.

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

CENTERS

Center for Big Data
Dr. Chase Wu and Dr. 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
Dr. Kurt Rohloff and Dr. 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
Dr. Yehoshua Perl and Dr. 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.

LABORATORIES

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.

High Performance Computing Laboratory
Dr. Qing Liu, Director

The High Performance Computing (HPC) Laboratory investigates high performance computing, big data in data-intensive science, and high speed networking. In particular, the lab focuses on scalable data storage and analysis solutions on emerging architectures for HPC applications.

Intelligent Computing Laboratory
Dr. Bipin Rajendran, Director

The Intelligent Computing Laboratory investigates the following areas: biomimetic engineering and computation, architectures and systems for intelligent computing, novel materials and devices for next-generation computing applications, and algorithms and analytics for urban challenges.

Social Interaction Laboratory
Dr. Donghee Yvette Wohn, Director

The Social Interaction Laboratory 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).

Systems Optimization and Analytics Laboratory
Dr. Ismet Esra Buyuktahtakin-Toy, Director

The Systems Optimization and Analytics Laboratory (SOAL) conducts theoretical and applied research on large-scale mathematical optimization, including model formulation and analysis, algorithmic development, and software implementation to tackle complex systems and develop optimal decision strategies. SOAL applies data analytics and optimization techniques in production planning and supply chain systems as well as energy, healthcare, agricultural, and other systems.

TRANSDISCIPLINARY AREAS

INSTITUTES

Henry J. and Erna D. Leir Research Institute for Business, Technology and Society
Dr. Yi Chen, Director

The Leir Research Institute for Business, Technology and Society has an integrated, dual mission of innovative business research and targeted outreach necessary to realize the Institute's overarching goal of helping business and industry to become more eco-efficient, resilient and sustainable.

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.

CENTERS

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., Executive 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.

Newark 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.

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.

LABORATORIES

Robotics and Data (RAD) Laboratory
Dr. Pramod V. Abichandani, Director

Researchers at the Robotics and Data Laboratory (RADLab) work on problems centered around optimal, multi-dimensional, data-driven decision making for systems involving multiple aerial, terrestrial, underwater, and manipulator robots. Techniques from mathematical programming, linear and nonlinear systems theory, statistics, and machine learning are leveraged to create theoretical frameworks and associated real-time embedded systems to solve these problems.

GIScience and Remote Sensing Laboratory
Dr. Huiran Jin, Director

The GIScience and Remote Sensing Laboratory focuses on the advancement of geospatial analysis and quantitative modeling of environmental changes at regional to global scales. Remotely sensed data acquired by various airborne and spaceborne sensors are intensively used (e.g. spectral, SAR, LiDAR and UAVs). Topics of interest include land cover/land use mapping, wetland inundation monitoring, urban growth detection, and crop characterization.

I. Major Capital Projects Completed in Fiscal Year 2017

Life Sciences and Engineering Center

NJIT opened its $21 million state-of-the-art Life Sciences and Engineering Center in September of 2017. The four story facility provides more than 20,000 square feet of shared laboratories and meeting spaces, IT infrastructure, and cutting edge scientific instrumentation. It is designed to promote collaboration in fields ranging from biomedical engineering and the biological sciences to electrical engineering and healthcare technologies.

Wellness and Events Center

NJIT's new Wellness and Events Center, a $110 million project that is part of NJIT's campus transformation, officially opened its doors in November of 2017. The 220,000 sq. ft. facility offers students access to a 5,710 sq. ft. fitness center, an 11,580 sq. ft. turf room, a 25-yard pool with eight lanes, and ample space for other programs and events. The center provides a 3,500-seat arena and retractable grandstands and was recently home to the first-ever VOICE Summit (https://www.voicesummit.ai/).

SECTION III – OTHER INSTITUTIONAL INFORMATION

The New Jersey Institute of Technology has exceptional faculty who educate top students for rewarding careers. Degrees awarded in FY2017-2018 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
BA	**130**
Biology	69
Communication	8
Computer Science	4
Digital Design	18
History	3
Information Systems	6
Interior Design	13
Law, Technology, & Culture	6
Theater Arts and Technology	3
BAR	**61**
Architecture	61
BET	**207**
Computer Technology	26
Concrete Industry Management	10
Construction Engineering Technology	28
Construction Management Technology	11
Electrical & Computer Engineering Technology	47
Mechanical Engineering Technology	70
Medical Informatics Technology	8
Surveying Engineering Technology	6
Technology Education	1
BGS	**6**
General Studies	6
BS	**1227**
Applied Physics	10
Architecture	22
Biochemistry	10
Bioinformatics	2
Biology	11
Biomedical Engineering	64
Biophysics	3
Business	72

Business & Information Systems	24
Chemical Engineering	90
Chemistry	3
Civil Engineering	150
Communication	5
Computer Engineering	63
Computer Science	115
Computing & Business	3
Concrete Industry Management	10
Electrical Engineering	101
Engineering Science	4
Environmental Science	0
Human Computer Interaction	6
Industrial Design	12
Industrial Engineering	29
Information Technology	180
International Business	1
Mathematical Sciences	23
Mechanical Engineering	186
Science, Technology & Society	16
Web & Information Systems	12
Grand Total	**1631**

Masters	**Degrees Awarded**
MAR	**12**
Architecture	12
MBA	**62**
Business Administration	62
MS	**995**
Applied Mathematics	3
Applied Physics	3
Applied Statistics	11
Architecture	2
Bioinformatics	7
Biology	1
Biomedical Engineering	36
Biopharmaceutical Engineering	4
Biostatistics	5
Business & Information Systems	50
Chemical Engineering	29
Chemistry	3
Civil Engineering	80

Computer Engineering	26
Computer Science	217
Computing & Business	2
Cyber Security & Privacy	15
Data Science	2
Electrical Engineering	93
Emergency Management & Business Continuity	0
Engineering Management	80
Engineering Science	0
Environmental Engineering	10
Environmental Science	7
Healthcare Systems Management	4
Industrial Engineering	28
Information Systems	124
Infrastructure Planning	5
Interdisciplinary Study	0
Internet Engineering	0
IT Administration & Security	20
Management	30
Manufacturing Systems Engineering	1
Materials Science & Engineering	7
Mathematical & Computational Finance	4
Mechanical Engineering	31
Occupational Safety & Health Engineering	5
Pharmaceutical Chemistry	3
Pharmaceutical Engineering	12
Pharmaceutical Systems Management	0
Power and Energy Systems	7
Professional & Technical Communication	1
Software Engineering	21
Telecommunications	3
Transportation	3
Grand Total	**1069**

Doctoral	**Degrees Awarded**
Applied Physics	5
Biology	2
Biomedical Engineering	6
Chemical Engineering	6
Chemistry	3
Civil Engineering	4
Computer Engineering	0

Computer Science	4
Electrical Engineering	10
Environmental Engineering	1
Environmental Science	0
Industrial Engineering	2
Information Systems	4
Materials Science & Engineering	5
Mathematical Sciences	10
Mechanical Engineering	8
Transportation	3
Urban Systems	0
Grand Total	**73**

Post Baccalaureate Certificates	**Degrees Awarded**
Big Data Essentials	1
Biostatistics Essentials	0
Business and Information Systems	4
Construction Management	18
Data Mining	5
Engineering Leadership	1
Finance for Managers	3
Information Security	0
Instructional Design, Evaluation & Assessment	1
IT Administration	2
Management Essentials	4
Management of Technology	6
Network Security and Information Assurance	2
Pharmaceutical Management	1
Pharmaceutical Manufacturing	1
Project Management	24
Social Media Essentials	1
Software Engineering Analysis/Design	0
Supply Chain Engineering	6
Technical Communication Essentials	1
Web Systems Development	1
Grand Total	**82**

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 FY2017-2018	18
Pending Patent Applications/Patents Filed in FY2017-2018	61

III.B.2. Select Publications and Presentations

Adams, M.P., and J.P. Ideker. "Influence of Aggregate Type on Conversion and Strength in Calcium Aluminate Cement Concrete." *Cement and Concrete Research* 100 (2017): 284-296.

Bandelt, M., T.E. Frank. M.D. Lepech, and S.L. Billington. "Bond Behavior and Interface Modeling of Reinforced High-Performance Fiber-Reinforced Cementitious Composites." *Cement and Concrete Composites* 83 (2017): 188-201.

Bandera, C., R. Collins, and K. Passerini. "Risky Business: Experiential Learning, Information and Communications Technology, and Risk-Taking Attitudes in Entrepreneurship Education." *The International Journal of Management Education*, 16.2 (2018): 224-238.

Cai, W., and D.I. Singham. "A Principal-Agent Problem with Heterogeneous Demand Distributions for a Carbon Capture and Storage System." *European Journal of Operational Research* 264.1 (2018): 239-256.

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Fan, Q., N. Ansari, and X. Sun. "Energy Driven Avatar Migration in Green Cloudlet Networks." *IEEE Communications Letters* 21.7 (2017): 1601-1604.

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Gopalakrishnan, S., M. Guilbault, and A.K. Ojha. "A View from the Vendor's Side: Factors that Determine Satisfaction." *South Asian Journal of Business Studies* 6.3 (2017): 214-228.

Grebel, H., "Logic Gates with Ion Transistors." *Thin Solid Films* 638 (2017): 138-143.

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Hentosh, O.E., Y.A. Prykarpatsky, D. Blackmore, and A.K. Prykarpatski. "Lie-Algebraic Structure of Lax-Sato Integrable Heavenly Equations and the Lagrange-D'Alembert Principle." *Journal of Geometry & Physics* 120 (2017): 208-227.

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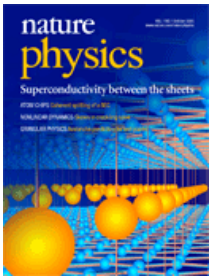

Kim, H., K. Muller, O. Shardt, S. Afkhami, and H.A. Stone. "Solutal-Marangoni Flows of Miscible Liquids Drive Transport Without Surface Contamination." *Nature Physics* 13.11 (2017): 1105.

Leontiadis, I., and R. Curtmola. "Secure Storage with Replication and Transparent Deduplication." *Proceedings of the Eighth ACM Conference on Data and Application Security and Privacy*. ACM, 2018.

Li, M., Y. He, J. Mathieu, C. Yu, Q. Li, and P.J. Alvarez. "Detection and Cell Sorting of Pseudonocardia Species by Fluorescence in Situ Hybridization and Flow Cytometry using 16S rRNA-targeted oligonucleotide probes." *Applied Microbiology and Biotechnology* 102.7 (2018): 3375-3386.

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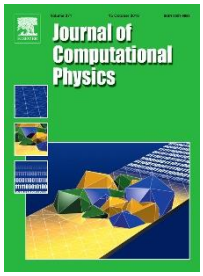

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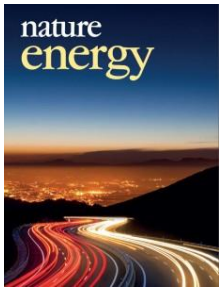

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Yan, Y., R.W. Crisp, J. Gu, B.D. Chernomordik, G.F. Pach, A.R. Marshall., J.A. Turner, and M.C. Beard. "Multiple Exciton Generation for Photoelectrochemical Hydrogen Evolution Reactions with Quantum Yields Exceeding 100%." *Nature Energy* 2.5 (2017): 17052.

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III.B.3. Faculty & Administrator Awards FY2018

S. Basuray	NSF CAREER Award
E. Buyutahtakin	NSF CAREER Award
B. Chen	NSF CAREER Award
S. Chester	NSF CAREER Award
J. Daniel	Technology All-Star Award, 22nd Annual Women of Color STEM Conference
B. Hamfeldt	NSF CAREER Award
L. Kondic	Fellow, American Physical Society
A. Lee	NSF CAREER Award
M. Mahgoub	Fellow, American Concrete Institute
S. Nadimpalii	NSF CAREER Award
E. Petrick	Computer History Museum Book Prize, Special Interest Group for Computers, Information, and Society
K. Rohloff	Young Faculty Award, DARPA
Y-Q. Shi	Fellow, National Academy of Inventors
X. Wang	Emerging Research Award, Energy and Fuel Division of American Chemical Society