NJIT
New Jersey Institute
of Technology

Annual Institutional Profile Report
2019

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

September 2019

September 13, 2019

New Jersey Institute of Technology (NJIT) takes great pride in presenting this Institutional Profile documenting our service to the State of New Jersey in education, scholarly and applied research, and economic development during Fiscal Year 2018.

NJIT has much to celebrate. This year we joined the ranks of the top 100 national universities according to the prestigious *U.S. News & World Report* ranking. Many factors contributed to this increase, in particular the success of our students and the commitment of our faculty and staff to preparing these students for the challenges of the 21st century workforce.

In the recent reclassification conducted by the Carnegie Classification of Institutions of Higher Education, NJIT has moved onto the prestigious list of 131 Very High (R1) Research Activity doctoral institutions. This accomplishment places NJIT in league with top STEM institutions across the country and positions NJIT as one of only three New Jersey universities to be classified as an R1, along with Princeton University and Rutgers University - New Brunswick.

Additionally, according to a report issued by Econsult Solutions, Inc. (ESI), NJIT's total economic impact to the State of New Jersey is $2.81 billion annually. This report takes into consideration NJIT's contributions to the state in education, research, business incubation, and product development, as well as its employment of a highly diverse workforce.

Continuing our efforts to showcase Newark and New Jersey as centers for technological innovation, NJIT once again hosted the VOICE Summit sponsored by Amazon Alexa, featuring NJIT alumnus David Isbitski '98–chief evangelist for Alexa and Echo–as keynote speaker. The Summit drew over 5,000 attendees and featured 350 speakers and 110 exhibitors.

This Institutional Profile Report highlights NJIT's continuing commitment to the State of New Jersey and to 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 seven schools and colleges: Newark College of Engineering (1930), the School of Applied Engineering and Technology (2018), 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 2018. Total academic research expenditures in fiscal year 2018 amounted to over $162 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 into 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.

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 of Business (AACSB)

Accreditation Board for Engineering and Technology (ABET)

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

CHE MSA — Middle States Commission on Higher Education
3624 Market Street, Philadelphia, PA 19104-2680. Tel: 267-284-5000.
www.msche.org

STATEMENT OF ACCREDITATION STATUS

The Statement of Accreditation Status (SAS) is the official statement of the Middle States Commission on Higher Education (MSCHE) about each institution's current accreditation status and scope of accreditation. The SAS also provides a brief history of the actions taken by the Commission.

Institution:	NEW JERSEY INSTITUTE OF TECHNOLOGY Newark, NJ
Chief Executive Officer:	Dr. Joel Bloom, President
Carnegie Classification:	Doctoral Universities: Higher Research Activity » Four-year, medium, primarily nonresidential
Control:	Public
Former Name(s):	Newark College of Engineering (1/1/1976)
Address:	University Heights
Newark, NJ 07102-1982
Phone:	(973) 596-3000
URL:	www.njit.edu
Accreditation Liaison Officer (ALO):	Dr. Eugene Deess
Commission Staff Liaison:	Dr. Kushnood Haq, Vice President

Accreditation Summary

For more information, see the Commission's **Accreditation Actions Policy and Procedures**.

Phase: Accredited
Status: Accredited
Accreditation Granted: 1934
Last Reaffirmation: 2017
Next Self-Study Evaluation: 2021-2022
Next Mid-Point Peer Review: 2026

Alternative Delivery Methods

The following represents approved alternative delivery methods included in the scope of the institution's accreditation:

Distance Education
Approved to offer programs by this delivery method

Correspondence Education
Not approved for this delivery method

Credential Levels

⊘ **Approved Credential Levels**

The following represents credential levels included in the scope of the institution's accreditation:

- Bachelor's Degree or Equivalent
- Post-baccalaureate Certificate
- Master's Degree or Equivalent
- Doctor's Degree- Research/Scholarship

Locations

The following represents branch campuses, additional locations, and other instructional sites that are included within the scope of the institution's accreditation:

Location	Type
Beijing University of Technology Beijing China	Additional Location Inactive
Mercer County Community College 1200 Old Trenton Road Windsor, NJ 08550	Additional Location
NJIT@Jersey City 101 Hudson St Jersey City, NJ 07302	Additional Location

Definitions: For definitions of branch campus, additional locations, or other instructional sites, see the **Commission's Substantive Change Policy and Procedures**.

Accreditation Actions

The following represents the MSCHE accreditation actions taken in the last ten (10) years. For more information, see the **Commission's Accreditation Actions Policy and Procedures** *and* **the Substantive Change Policy and Procedures**.

April 30, 2019   To acknowledge receipt of the substantive change request. To include the additional location at NJIT@Jersey City, 101 Hudson Street, Jersey City, NJ 07302 within the institution's scope of accreditation. To note that the Commission may rescind this action if instruction does not commence within one calendar year from the date of this action. The next evaluation visit is scheduled for 2021-2022.

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.

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.

March 6, 2014   To accept the progress report. 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.

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.

February 28, 2012
To acknowledge receipt of the substantive change request and to include the contractual agreement with NeST Group of Companies and the additional locations in Kochi, India and Thiruvanathpuram, India, provisionally within the scope of the institution's accreditation, pending a site visit to one of these locations within six months of commencing operations. The Commission requires written notification within thirty days of the commencement of operations at these additional locations. In the event that operations at the additional locations do not commence within one calendar year from the approval of this action, approval will lapse. The next evaluation visit is scheduled for 2011-2012.

August 30, 2011
To acknowledge the substantive change request and to include the contractual agreement with Amity University, located at Sector 44, Noida, U.P., India, within the scope of the institution's accreditation. The next evaluation visit is scheduled for 2011-2012.

April 15, 2010
To recognize the institution's decision not to open the additional location in Dubai, United Arab Emirates; and to remove the location from the scope of the institution's accreditation.

Information about the Middle States Commission on Higher Education

The Middle States Commission on Higher Education (MSCHE) is one of seven regional accrediting organizations in the United States and is recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation (CHEA). MSCHE is an institutional accreditor. Therefore, MSCHE examines and reaffirms accreditation for each of its member institutions as a whole rather than the specific programs within the institution. MSCHE does not approve individual programs. MSCHE accreditation does not expire but is reevaluated and monitored on a regular and consistent basis in accordance with the institution's assigned accreditation review cycle.

B. Number of Students Served

NJIT served 11,423 enrolled students in the fall of 2018.

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

Table II.B.1
UNDERGRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2018

	Number	Percent
Full-time	6,827	80.0%
Part-time	1,705	20.0%
Total	8,532	100%

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

Table II.B.2
GRADUATE ENROLLMENT BY ATTENDANCE STATUS, FALL 2018

	Number	Percent
Full-time	1,745	60.4%
Part-time	1,146	39.6%
Total	2,891	100%

II.B.4 FY2018 (12-Month) Unduplicated Enrollments

Table II.B.4
UNDUPLICATED ENROLLMENT, FY2018 (IPEDS 12-MONTH)

	Number	Credit Hours	FTE
Undergraduate	9,620	218,113	7,270
Graduate	3,538	42,509	1,771
Total	13,158	260,622	9,041

C. Characteristics of Undergraduate Students

NJIT students care about the community, providing over 62,000 hours of community service in Newark and surrounding communities during the 201-2019 academic year. 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 8,123 individuals applied for admission as first-time freshmen to NJIT in fall 2018. The university admitted 64% of these applicants, and 25% of those admitted enrolled at NJIT.

II.C.1 Mean Math and Evidence-Based Reading & Writing SAT Scores

Fall 2018 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 2018 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 2018

Full-Time Students				
	ERW*	N	Math	N
Regular Admits	625.0	1,025	662.2	1,025
EOF Admits	594.7	74	625.8	74
Special Admits	0.0	0	0.0	0
All Admits	623.0	1,099	659.8	1,099
Missing Scores		127		127

Part-Time Students				
	ERW*	N	Math	N
Regular Admits	614.2	19	636.3	19
EOF Admits	0.0	0	0.0	0
Special Admits	0.0	0	0.0	0
All Admits	614.2	19	636.3	19
Missing Scores		3		3

*Note: ERW is Evidence-Based Reading & Writing.

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

Only 2.9% 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 2018

Total Fall 2018 Undergraduate Enrollment	Number of Students Enrolled in One or More Remedial Courses	Percent of Total
8,532	57	0.7%

Total Number of First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2018

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
1,264	37	2.9%

First-time, Full-time (FTFT) Students Enrolled in Remediation in Fall 2018 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	37	2.9%

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

In the fall of 2018, 11,423 students enrolled in various programs at New Jersey Institute of Technology. Seventy-five percent (8,532) of these students enrolled at the undergraduate level.

Eighty percent of undergraduates enrolled as full time, and 25% 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 2018

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
White	2,380	34.9%	366	21.5%	2,746	32.2%
Black	517	7.6%	136	8.0%	653	7.7%
Hispanic	1,419	20.8%	416	24.4%	1,835	21.5%
Asian*	1,616	23.7%	258	15.1%	1,874	22.0%
American Indian	7	0.1%	1	0.1%	8	0.1%
Alien	384	5.6%	52	3.0%	436	5.1%
Unknown	504	7.4%	476	27.9%	980	11.5%
Total*	6,827	100.1%	1,705	100.0%	8,532	100.1%

*Asian includes Pacific Islanders.
**Race Unknown includes Two or More Races.
***Some totals will be higher than 100.0% due to rounding.

Table II.C.3.b
UNDERGRADUATE ENROLLMENT BY SEX: FALL 2018

	Full-Time		Part-Time		Total	
	N	Percent	N	Percent	N	Percent
Male	5,203	76.2%	1,199	70.3%	6,402	75.0%
Female	1,624	23.8%	506	29.7%	2,130	25.0%
Total	6,827	100.0%	1,705	100.0%	8,532	100.0%

Table II.C.3.c
UNDERGRADUATE ENROLLMENT BY AGE: FALL 2018

	Full-Time		Part-Time		Total	
	N	**Percent**	**N**	**Percent**	**N**	**Percent**
Less than 18	24	0.4%	107	6.3%	131	1.5%
18-19	2,062	30.2%	155	9.1%	2,217	26.0%
20-21	2,299	33.7%	348	20.4%	2,647	31.0%
22-24	1,697	24.9%	522	30.6%	2,219	26.0%
25-29	538	7.9%	311	18.2%	849	10.0%
30-34	128	1.9%	126	7.4%	254	3.0%
35-39	48	0.7%	65	3.8%	113	1.3%
40-49	23	0.3%	57	3.3%	80	0.9%
50-64	8	0.1%	13	0.8%	21	0.2%
65 and more	0	0.0%	1	0.1%	1	0.1%
Unknown	0	0.0%	0	0.0%	0	0.0%
Total*	6,827	100.1%	1,705	100.0%	8,532	100.0%

Some totals will be higher than 100.0% due to rounding.

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

During the 2017-2018 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, AY2017-2018

Federal Programs	Recipients	Dollars ($)	$ / Recipient
Pell Grants	3,233	14,818,000	4,583.36
College Work Study	286	393,000	1,374.13
Perkins Loans	0	0	--
SEOG	1,067	389,000	364.57
PLUS Loans	349	5,155,000	14,770.77
Stafford Loans (Subsidized)	3,331	14,535,000	4,363.55
Stafford Loans (Unsubsidized)	2,961	11,355,000	3,834.85
SMART & ACG or Other	0	0	--

State Programs	Recipients	Dollars ($)	$ / Recipient
Tuition Aid Grants (TAG)	2,675	20,850,000	7,794.39
Educational Opportunity Fund (EOF)	394	617,000	1,565.99
Outstanding Scholars (OSRP) or other	3	11,000	3,666.67
Distinguished Scholars	0	0	--
Urban Scholars	31	29,000	935.48
NJ STARS	23	48,000	2,086.96
NJCLASS Loans	173	2,310,000	13,352.60

Institutional Programs	Recipients	Dollars ($)	$ / Recipient
Grants/Scholarships	3,124	29,903,000	9,572.02
Loans	0	0	--

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

Ninety percent of first-time undergraduates were from the state of New Jersey in the fall 2018 cohort.

Table II.C.5

Fall 2018 First-Time Undergraduate Enrollment by State Residence

State Residents*	Non-State Residents	Total	% State Residents
1,157	129	1,286	90.0%

Residence unknown included with New Jersey residents

D. Student Outcomes

The one-year retention rate of first-time, full-time freshmen (fall 2017 cohort) is 88%, and the six-year graduation rate has increased by 1% to a total of 65% for the fall 2012 cohort.

II.D.1 Graduation Rates

Table II.D.1.a
FOUR-, FIVE- AND SIX-YEAR GRADUATION RATE OF FALL 2012 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	366	119	32.5%	216	59.0%	249	68.0%
Black	67	15	22.4%	35	52.2%	39	58.2%
Hispanic	194	26	13.4%	85	43.8%	103	53.1%
Asian	214	81	37.9%	136	63.6%	156	72.9%
Alien	37	15	40.5%	23	62.2%	24	64.9%
Other*	53	16	30.2%	35	66.0%	36	67.9%
Total	931	272	29.2%	530	56.9%	607	65.2%

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 2017 TO FALL 2018

Full-Time			Part-Time		
Fall 2017 First-Time Undergraduates	Retained in Fall 2018	Retention Rate	Fall 2017 First-Time Undergraduates	Retained in Fall 2018	Retention Rate
1,082	947	87.5%	32	16	50.0%

E. Faculty Characteristics

A total of 422 full-time faculty (including tenured/tenure-track faculty and non-tenured University Lecturers) taught classes in Fall 2018.

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 2018

	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	All
TENURED																	
Professors	60	11	4	2	0	0	31	3	0	0	0	0	23	1	118	17	135
Associate Professors	43	9	1	1	3	0	17	5	0	0	0	1	4	1	68	17	85
Assistant Professors	0	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	0
Total	103	20	5	3	3	0	48	8	0	0	0	1	27	2	186	34	220
WITHOUT TENURE																	
Professors	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Associate Professors	1	1	0	0	0	0	6	1	0	0	0	0	0	0	7	2	9
Assistant Professors	14	13	0	0	1	1	17	6	0	0	15	6	0	0	47	26	73
All Others	49	35	5	1	6	0	8	4	0	0	3	0	8	0	79	40	119
Total	65	49	5	1	7	1	31	11	0	0	18	6	8	0	134	68	202
TOTAL																	
Professors	61	11	4	2	0	0	31	3	0	0	0	0	23	1	119	17	136
Associate Professors	44	10	1	1	3	0	23	6	0	0	0	1	4	1	75	19	94
Assistant Professors	14	13	0	0	1	1	17	6	0	0	15	6	0	0	47	26	73
All Others	49	35	5	1	6	0	8	4	0	0	3	0	8	0	79	40	119
Total	168	69	10	4	10	1	79	19	0	0	18	7	35	2	320	102	422

Asian includes Pacific Islanders and Unknown incudes Two or More Races.

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 2018

	Total	Taught by Full-Time Faculty		Taught by Part-Time Faculty		Taught by Others*	
		Number	Percent	Number	Percent	Number	Percent
**Total Number of Course Sections	1580	873	55.3%	585	37.0%	122	7.7%

* *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 2018

	Number	Percent
Total number of Full-time Faculty	422	55.1%
Total number of Part-time Faculty	344	44.9%
Total	766	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 2018

	Male	Female	Total
White	11	1	12
Black	0	0	0
Hispanic	0	1	1
Asian	1	0	1
American Indian	0	0	0
Non Resident Alien	0	0	0
Unknown	0	0	0
Total	12	2	14

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

Table II.F.2
MEMBERS OF THE BOARD OF TRUSTEES, FALL 2018

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.
Robert C. Cohen '83, '84, '87 (*Chair-Elect*)	Vice President, Global Research and Development Chief Technology Officer	Stryker Orthopaedics
Diane Montalto '82 (*Co-Vice Chair*)	President	DSA Engineering, LLC

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 2018, NJIT students were enrolled in 20 Ph.D. programs, master's programs in 46 specialties, 23 Post Baccalaureate Certificate programs and 50 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
- 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, Applied Statistical Methods
- CRT, Biostatistics Essentials
- CRT, Digital Marketing Design Essentials
- CRT, Instructional Design, Evaluation and Assessment
- CRT, Quantitative Tools for Finance

- CRT, Technical Communication Essentials
- CRT, User Experience Essentials
- MS, Applied Mathematics
- MS, Applied Physics
- MS, Applied Statistics
- MS, Biology
- MS, Biostatistics
- MS, Chemistry
- MS, Environmental Science
- MS, Materials Science & Engineering
- MS, Mathematical & Computational Finance
- MS, Pharmaceutical Chemistry
- MS, Professional & Technical Communication
- PHD, Applied Physics
- PHD, Biology
- PHD, Chemistry
- PHD, Environmental Science
- PHD, Materials Science and Engineering
- PHD, Mathematical Sciences

Martin Tuchman School of Management

- BS, Business
- BS, International Business
- 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, General Engineering
- BS, Industrial Engineering

- BS, Mechanical Engineering
- BS, Engineering Technology - Computer Technology
- 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, Environmental Engineering
- CRT, Hydrology and Water Resources Engineering
- CRT, Intelligent Transportation Systems
- CRT, Pharmaceutical Management
- CRT, Pharmaceutical Manufacturing
- CRT, Pharmaceutical Technology
- CRT, Polymers and Plastics
- CRT, Power Systems Engineering
- CRT, Project Management
- CRT, Supply Chain Engineering
- MS, Biomedical 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, Internet Engineering
- MS, Manufacturing Systems Engineering
- MS, Materials 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, Materials Engineering
- PHD, Mechanical Engineering
- PHD, Transportation

Ying Wu College of Computing

- BA, Computer Science
- BA, Information Systems
- BS, Business & Information Systems
- BS, Computer Science
- BS, Computing & Business
- BS, Human Computer Interaction
- BS, Information Systems
- BS, Information Technology
- BS, Web & Information Systems
- CRT, Business and Information Systems Implementation
- CRT, Data Mining
- CRT, Information Security
- CRT, IT Administration
- CRT, Network Security and Information Assurance
- CRT, Software Engineering Analysis and Design
- CRT, Web Systems Development
- 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
- BA/DMD with Rutgers School of Dental Medicine
- BA/MD with Rutgers NJ Medical School
- BA/MD with American University of Antigua, West Indies
- BA/MD/MBA with American University of Antigua, West Indies
- BA/MD with Poncé Health Science University, Puerto Rico
- BA/DPT with Rutgers School of Health Professions (Physical Therapy)
- BA/PA with Rutgers School of Health Professions (Physician Assistant)
- BA/MD with St. George's University Grenada, West Indies
- BA/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, 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, 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

County College of Morris

Business, Electrical Technology

Essex County College

Biology, Business, Chemistry, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, History, Industrial Engineering, Information Technology, 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, Industrial Engineering, Mechanical Engineering, Surveying Technology

Middlesex County College

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

Ocean County College

Business, Civil Engineering, Computer Engineering, Electrical Technology, Mechanical Engineering, Surveying Technology

Passaic County Community College

Business, Engineering Technology

Raritan Valley Community College

Applied Math, Biology, Business, Chemistry, Computer Science, Electrical Technology, Management

Union County College

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

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
Netherlands	**University of Twente**	Exchange

Sweden	**Jonkoping University School of Engineering & Business**	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**	Joint/Exchange
	Beijing University of Technology	Exchange
	Fujian University of Technology	Joint/Exchange
	Lixin University of Accounting and Finance	NJIT Degree
	Qingdao University of Technology	Joint/Exchange
	Wuchang University of Technology	Exchange
Denmark	**Aarhus School of Architecture**	Exchange
France	**Centrale Nantes**	Exchange
	Kedge Business School	Exchange
	SKEMA	Exchange
Germany	**Hochschule Bremen City University of Applied Sciences**	Exchange
	Technische Hochschule Ingolstadt	Exchange
	University Hochschule Furtwangen	Exchange
Greece	**University of Piraeus**	Exchange
Ireland	**Cork Institute of Technology**	Exchange
Italy	**L'Universita di Siena**	Exchange
Jordan	**Yarmouk University**	Exchange
Korea	**Pukyong National University**	Exchange
Saudi Arabia	**University of Dammam's College of Computer Science and Information Technology**	Exchange
Spain	**University of Cantabria**	Exchange
	University of Catalunya	Exchange
	Universidad Nebrija	Exchange
	Universidad Pontificia Comillas	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** **Taizhou University**	NJIT Degree NJIT Degree
Germany	**Karlsruge University of Applied Sciences** **Universitat Passau**	Exchange/Degree Joint
Italy	**Politecnico di Bari** **Universita degli Studi di Parma**	Joint 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 2018

Federally Financed Academic R&D Expenditures	$92,000,000
Institutionally Financed Academic R&D Expenditures	$55,800,000
Externally Financed Academic R&D Expenditures	$14,500,000
Total Academic R&D Expenditures	$162,300,000

NJIT Research Institutes, Centers and Laboratories

NJIT is proud of its status as an "R1" Very High Research Activity doctoral institution according to the Carnegie Classification of Institutions of Higher Education. NJIT is one of only three R1 institutions in the state of New Jersey, along with Princeton University and Rutgers University – New Brunswick. The R1 classification is the result of NJIT's growth in research in four multidisciplinary areas: Data Science and Information Technology, Life Sciences and Engineering, Sustainable Systems, and other transdisciplinary areas that explore the large systemic changes of innovations such as "smart cities." 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.
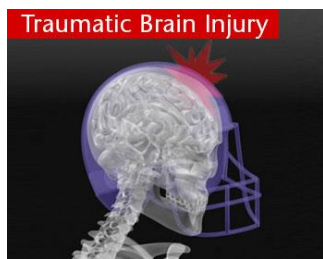
CENTERS

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, Director

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

Biomaterial Drug Development, Discovery and Delivery Laboratory
Dr. Vivek Kumar, Director

The Biomaterial Drug Development, Discovery and Delivery 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.

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.

Champagne Research Group
Dr. Pier Alexandre Champagne, Director

The Champagne Research Group focuses on the evaluation of organic synthesis to develop new chemical reactions in the field of organoboron chemistry. They also employ physical organic and computational tools to understand the mechanisms of organic reactions and develop models of selectivity for enantioselective organocatalyzed or transition metal-catalyzed reactions.

Chen Research Lab
Dr. Hao Chen, Director

Mass spectrometry is a fascinating analytical and biological technology. The Chen Research Lab focuses on the new mass-spec innovation based on newly discovered ion chemistry and novel instrumentation.

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.

Computational Orthopedics and Rehabilitation Laboratory
Dr. Saikat Pal, Director

The focus of the Computational Orthopedics and Rehabilitation 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.

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.

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.
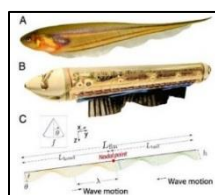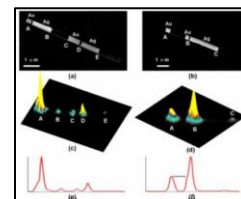
Laboratory for Neurobiology and Behavior
Dr. Eric Fortune, Director

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

Laboratory for Neuroethology of Locomotion
Dr. Gal Haspel, Director

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

Laboratory of Neurovascular Inflammation and Neurodegenerative Diseases
Dr. James Haorah, Director

The Laboratory of Neurovascular Inflammation and Neurodegenerative Diseases 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.

Material Analysis in Biological Systems Laboratory
Dr. Kathleen McEnnis, Director

The Material Analysis in Biological Systems 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.

Neuro 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.

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.
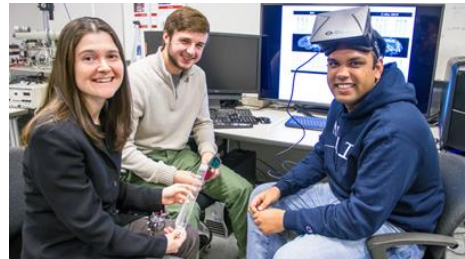
Zebrafish Neural Circuits and Behavior Laboratory
Dr. Kristen Severi, Director

The Zebrafish Neural 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.

SUSTAINABLE SYSTEMS

INSTITUTES

Institute of Space Weather Sciences
Dr. Haimin Wang, Director

The Institute for Space Weather Sciences (ISWS) combines the strengths of three NJIT research centers: Center for Solar-Terrestrial Research, Center for Computational Heliophysics, and Center for Big Data to understand and predict the physics of solar

activities and their effects on space weather. ISWS integrates state-of-the-art observations, modeling, and big data analytics.

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 Resilient Design
Deane Evans, Director

The Center for Resilient Design was established in the aftermath of Super Storm Sandy and has become a research, technical assistance, and training institution focused on improving the resilience of buildings and communities in the face of natural disasters and other stresses to inform and support disaster-resilience initiatives in other jurisdictions across the US and beyond.

Center for Energy Efficiency, Resilience and Innovation (CEERI)
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.

Center for Structured Organic Particulate Systems (C-SOPS)
Dr. Rajesh Davé, Director

The Center for Structured Organic Particular Systems (C-SOPS) brings together a cross-disciplinary team of researchers from major universities to work closely with industry leaders and regulatory authorities to improve the way pharmaceuticals, foods and agriculture products are manufactured.

CNBM New Energy Materials Research Center
Dr. Ken Chin, Director

The CNBM New Energy Materials Research Center is a public US corporation that recently awarded NJIT a three-year, $1.5M grant to establish a CdTe solar energy research center focused on improving the applications of CdTe semiconductor materials for use in thin-film solar modules.

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.
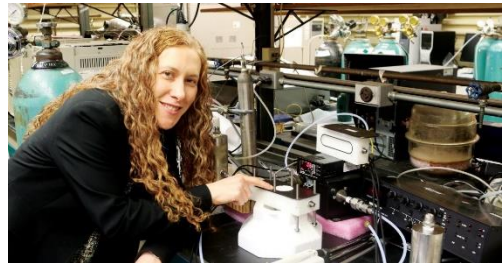
New Jersey Center for Engineered Particulates (NJCEP)
Dr. Rajesh Davé, Director

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.
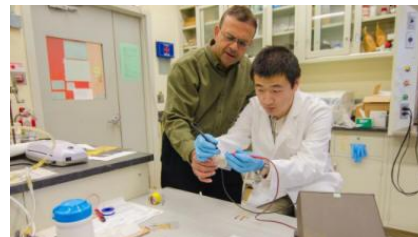
Applied Electrohydrodynamics Laboratory
Dr. Boris Khusid, Director

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.

Assistive and Intelligent Robotics Laboratory
Dr. Lu Lu, Director

The Assistive and Intelligent 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.

Atmospheric Chemistry Laboratory
Dr. Alexei Khalizov, Director

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

Biophotonics Sensing and Imaging Laboratory
Dr. Xuan Liu, Director

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

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.

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.

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.

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.

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.

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 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 for Numerical Turbulence
Dr. Simone Marras, Director

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

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.

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.

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.

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

INSTITUTES

Institute for Data Science
Dr. David Bader, Director

The Institute for Data Science focuses on cutting-edge interdisciplinary research and development in all areas pertinent to digital data. The institute brings NJIT's existing research centers in big data, medical informatics and cybersecurity together with new research centers in data analytics and artificial intelligence, cutting across all of the university's colleges and schools to develop data-driven technologies and apply them to solve fundamental and real-world problems. Beyond academic research, the institute will interact closely with the outside world to identify and solve important problems in the modern data-driven economy.

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 Communication and Signal Processing (aCASP) Research Laboratory
Dr. Nirwan Ansari, Director

The advanced Communication and Signal Processing (aCASP) Research Laboratory conducts research in domains including wireless high speed underwater vector communication; source location using vector sensors and microphones; and systems biology of cell signaling, molecular networks and disease.

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.

Big Data Analytics Laboratory (BDaL)
Dr. Senjuti Basu Roy, Director

The Big Data Analytics Lab (BDaL) is an interdisciplinary research laboratory focusing on large-scale data analytics problems that focus on man-machine collaboration in domains such as social networks, healthcare, climate science, retail and business, and spatial data.

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.

Gender-Inclusive Design, Game, and Educational Technology (GIDGET) Laboratory
Dr. Michael Lee, Director

The (G)ender-(I)nclusive (D)esign, (G)ame, and (E)ducational (T)echnology (GIDGET) Lab investigates the use of technology to effectively and measurably teach novices basic programming concepts using an online puzzle game.

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.

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.
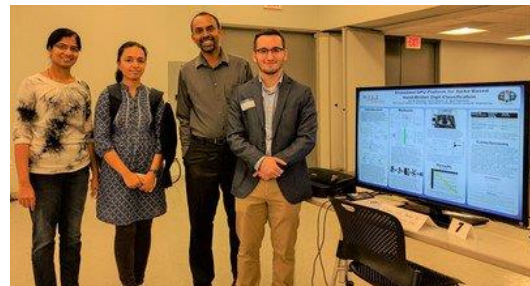
Networking Research Laboratory
Dr. Roberto Rojas-Cessa, Director

The Networking Research Laboratory pursues research topics in the broad area of computer communications and networks, particularly theoretical and experimental research that leads to the understanding of the impact and future of communications networks such as the Internet.

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.

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.

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 and Judith Sheft, Co-Directors

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.
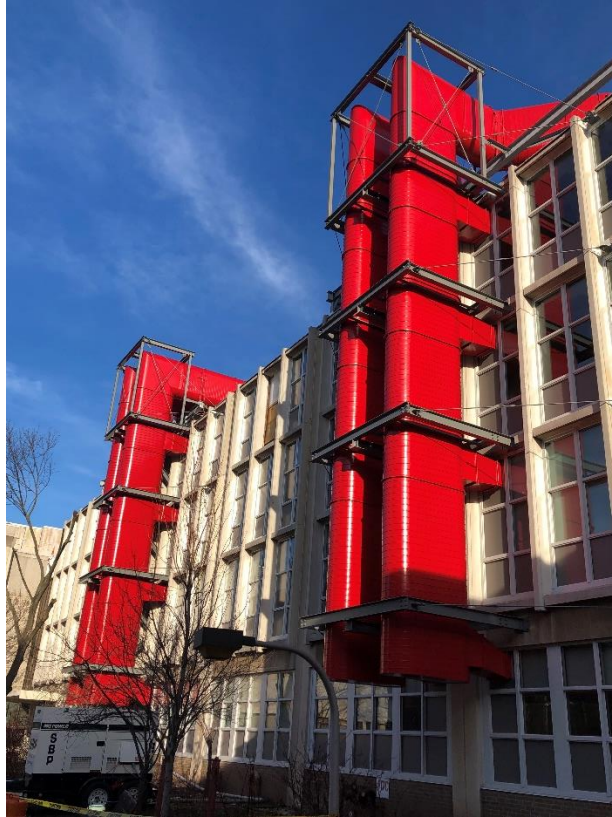
VentureLink
Simon Nynens, Executive Director

VentureLink is a community hub for technology companies at all stages of development, providing companies with weekly programming, workspace, and expert mentorship.

I. Major Capital Projects Completed in Fiscal Year 2018

Faculty Memorial Hall

NJIT completed $20 million of infrastructure improvements to Faculty Memorial Hall in May of 2019. The four-story facility received critical upgrades to its heating/ventilation/air conditioning (HVAC) systems as well as life safety systems. Other important improvements to the building include new windows, new roofing, new lighting, bathroom upgrades and elevator modernizations. These building enhancements provide better quality teaching and learning spaces to support the various classrooms, laboratories, and offices within the building.

Makerspace

NJIT's new Makerspace, a 10,000 square foot, state-of-the-art educational facility, is the largest of its kind in New Jersey. With over $3 million in high-tech equipment that includes industrial and small prototyping machines, this educational facility provides an environment suited for rapid prototyping and collaboration where theory can be put into practice and ideas turned into reality. Improvements to this space include new lighting, new flooring, new glass curtain walls, infrastructure upgrades, new furniture, and equipment. The Makerspace will provide an opportunity for students, faculty, staff, and visitors to gain real-world experience in various industries.
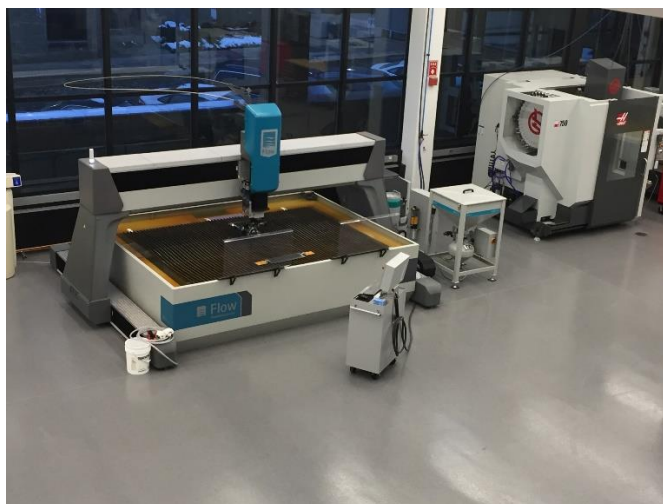
Lubetkin Field at Mal Simon Stadium

With the completion of the Wellness and Events Center and demolition of the original gymnasium, NJIT has now unveiled Lubetkin Field at Mal Simon Stadium.

The state-of-the-art facility is home to the NJIT's men's and women's success and men's lacrosse programs. When paired with the Wellness and Events Center, it gives the NJIT Highlanders an exceptional athletic venue—one of the best in the Northeast.

Lubetkin Field at Mal Simon Stadium features a multi-layer, dual-polymer fiber for sports turf. Other features include a digital videoboard capable of displaying live video, animation, graphics and statistics, a scoreboard, and field-level seating for spectators.

SECTION III – OTHER INSTITUTIONAL INFORMATION

The New Jersey Institute of Technology has exceptional faculty who educate top students for rewarding careers. In FY2018-2019, NJIT conferred 2,894 degrees and certificates, 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	**131**
Biology	75
Communication	6
Computer Science	9
Digital Design	7
History	5
Information Systems	7
Interior Design	12
Law, Technology, & Culture	9
Theater Arts and Technology	1
BAR	**63**
Architecture	63
BET	**222**
Computer Technology	41
Concrete Industry Management	5
Construction Engineering Technology	31
Construction Management Technology	10
Electrical & Computer Engineering Technology	47
Mechanical Engineering Technology	69
Medical Informatics Technology	10
Surveying Engineering Technology	9
Technology Education	0
BGS	**5**
General Studies	5
BS	**1,225**
Applied Physics	4
Architecture	23
Biochemistry	2
Bioinformatics	1
Biology	6
Biomedical Engineering	54
Biophysics	0

Business	91
Business & Information Systems	24
Chemical Engineering	92
Chemistry	2
Civil Engineering	125
Communication	2
Computer Engineering	44
Computer Science	135
Computing & Business	2
Concrete Industry Management	6
Electrical Engineering	95
Engineering Science	0
Environmental Science	4
General Engineering	4
Human Computer Interaction	7
Industrial Design	6
Industrial Engineering	35
Information Technology	200
International Business	1
Mathematical Sciences	26
Mechanical Engineering	219
Science, Technology & Society	6
Web & Information Systems	9
Grand Total	**1,646**

Masters	Degrees Awarded
MAR	**13**
Architecture	13
MBA	**53**
Business Administration	53
MS	**1,036**
Applied Mathematics	4
Applied Physics	2
Applied Statistics	13
Architecture	2
Bioinformatics	5
Biology	5
Biomedical Engineering	48
Biopharmaceutical Engineering	1
Biostatistics	4
Business & Information Systems	41
Chemical Engineering	24

Chemistry	5
Civil Engineering	100
Computer Engineering	28
Computer Science	214
Computing & Business	2
Cyber Security & Privacy	18
Data Science	11
Electrical Engineering	80
Emergency Management & Business Continuity	1
Engineering Management	74
Engineering Science	0
Environmental Engineering	7
Environmental Science	7
Healthcare Systems Management	2
Industrial Engineering	35
Information Systems	94
Infrastructure Planning	12
Interdisciplinary Study	0
Internet Engineering	0
IT Administration & Security	35
Management	25
Manufacturing Systems Engineering	7
Materials Science & Engineering	7
Mathematical & Computational Finance	6
Mechanical Engineering	50
Occupational Safety & Health Engineering	4
Pharmaceutical Chemistry	8
Pharmaceutical Engineering	10
Pharmaceutical Systems Management	3
Power and Energy Systems	11
Professional & Technical Communication	3
Software Engineering	14
Telecommunications	8
Transportation	7
Grand Total	**1,103**

Doctoral	Degrees Awarded
Applied Physics	3
Biology	1
Biomedical Engineering	5
Chemical Engineering	6
Chemistry	3

Civil Engineering	0
Computer Engineering	1
Computer Science	8
Electrical Engineering	14
Environmental Engineering	3
Environmental Science	0
Industrial Engineering	1
Information Systems	0
Materials Science & Engineering	3
Mathematical Sciences	3
Mechanical Engineering	1
Transportation	2
Urban Systems	2
Grand Total	**56**

Post Baccalaureate Certificates	Degrees Awarded
Big Data Essentials	1
Biomedical Device Development	2
Biostatistics Essentials	0
Business and Information Systems Implementation	6
Construction Management	6
Data Mining	1
Engineering Leadership	0
Finance for Managers	1
Information Security	0
Instructional Design, Evaluation & Assessment	1
IT Administration	2
Management Essentials	3
Management of Technology	9
Network Security and Information Assurance	1
Pharmaceutical Management	2
Pharmaceutical Manufacturing	2
Power Systems Engineering	3
Project Management	28
Social Media Essentials	0
Software Engineering Analysis/Design	3
Supply Chain Engineering	15
Technical Communication Essentials	1
Transportation Studies	2
Web Systems Development	0
Grand Total	**89**

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 (as of July 2019)

Unexpired Patents/Patents Issued	224
Pending Patent Applications/Patents Filed in FY2018-2019	70

III.B.2. Select Publications and Presentations

Selected Conference Proceedings

Calandriello, D., Koutis, I., Lazaric, A., & Valko, M. (2018). Improved large-scale graph learning through ridge spectral sparsification. In *35th International Conference on Machine Learning, ICML 2018* (Vol. 2, pp. 1081–1090).

Fathi-Kazerooni, S., Kaymak, Y., & Rojas-Cessa, R. (2019). Tracking User Application Activity by using Machine Learning Techniques on Network Traffic. In *1st International Conference on Artificial Intelligence in Information and Communication, ICAIIC 2019* (pp. 405–410). https://doi.org/10.1109/ICAIIC.2019.8669040

Gunarathna, G. S., & Da Gonçalves Silva, B. (2018). Finite element study of the stress field near pressurized and non-pressurized flaws in rock specimens subject to uniaxial and biaxial loads. In *52nd U.S. Rock Mechanics/Geomechanics Symposium*.

Habib, S., & Kliewer, J. (2019). Algebraic optimization of binary spatially coupled measurement matrices for interval passing. In *2018 IEEE Information Theory Workshop, ITW 2018*. https://doi.org/10.1109/ITW.2018.8613339

Lee, J., & Gutesa, S. (2018). Human factor evaluation of in-vehicle signal assistance system. In *2017 IEEE SmartWorld Ubiquitous Intelligence and Computing, Advanced and Trusted Computed, Scalable Computing and Communications, Cloud and Big Data Computing, Internet of People and Smart City Innovation, SmartWorld/SCALCOM/UIC/ATC/CBDCom/IOP/SCI 2017 - Conference Proceedings* (pp. 1–6). https://doi.org/10.1109/UIC-ATC.2017.8397580

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Selected Publications

Akcay, Z., Huang, X., Nadim, F., & Bose, A. (2018). Phase-locking and bistability in neuronal networks with synaptic depression. *Physica D: Nonlinear Phenomena*, *364*, 8–21. https://doi.org/10.1016/j.physd.2017.09.007

Amah, E., Janjua, M., & Singh, P. (2018). Direct numerical simulation of particles in spatially varying electric fields. *Fluids*, *3*(3). https://doi.org/10.3390/fluids3030052

Bi, J., Yuan, H., Zhang, L., & Zhang, J. (2019). SGW-SCN: An integrated machine learning approach for workload forecasting in geo-distributed cloud data centers. *Information Sciences*, *481*, 57–68. https://doi.org/10.1016/j.ins.2018.12.027

Chen, K., & Mitra, S. (2019). Controlling the dissolution rate of hydrophobic drugs by incorporating carbon nanotubes with different levels of carboxylation. *Applied Sciences (Switzerland)*, *9*(7). https://doi.org/10.3390/app9071475

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III.B.3. Faculty & Administrator Awards 2018-2019

T. Alvarez	Fellow, American Institute for Medical and Biological Engineering
K. Belfield	Fellow, American Chemical Society
S. Garnier	DoD Young Investigator Award
I. Koutis	NSF CAREER Award
M. Li	NSF CAREER Award
K. Rohloff	DARPA Director's Fellowship