A B S T R A C T S



NJIT JOINS THE RANKS OF THE NATION'S ELITE RESEARCH UNIVERSITIES

NJIT joined the ranks of the nation's elite and most productive institutions with its elevation to the top tier of research universities — a designation of R1 by the Carnegie Classification® indicating "very high research activity." First published in 1973, the Carnegie Classification of Institutions of Higher Education is the primary measure used by ratings organizations and governmental agencies to describe colleges and universities. Institutions that grant doctoral degrees are divided into three tiers that represent their level of research activity in terms of research and development expenditures and doctorates awarded. R1 is the highest.

NJIT's new designation is a forceful demonstration of the university's growing body of research and innovation and its ability going forward to secure major research grants that will lead to transformative discoveries in areas ranging from health care and medicine, to sustainable technologies and data analytics, among others. NJIT is one of just three universities in New Jersey to receive an R1 classification.

"This designation reflects the transformation NJIT is undergoing," commented NJIT Provost and Senior Executive Vice President Fadi Deek. "We have achieved a coveted Carnegie research classification by being designated as 'R1: Doctoral Universities very high research activity' along with only 130 other institutions of higher education in the United States."

Deek called the R1 designation "a reflection of the excellent research and scholarship that our faculty and students are engaged in," while adding, "But we are also mindful of much more work to be done as we rise even higher."

The university supports research in numerous ways, and takes seriously its role in nurturing talent on campus. Over the past six years, NJIT has hired nearly 130 new faculty members across STEM and other disciplines, increasing its faculty from 268 in 2014 to a projected 345 by 2020. They include experts on topics such as machine learning, data analytics, biomaterials and biomechanics.

Of NJIT's new classification, NJIT President Joel S. Bloom noted, "Receiving the R1 designation is a major achievement for NJIT and is the direct result of our faculty, researchers and staff, as well as the investments we have made to support their research agendas."

ABSTRACTS

Princeton Review Ranks NJIT among Top "Schools with **Exceptional ROI** for Your Tuition Investment"

NJIT is one of the nation's best colleges for students seeking a superb education with great career preparation and at an affordable price, according to The Princeton Review[®].

The education services company profiled NJIT in the recently published 2019 edition of its annual guide, The Best Value Colleges: 200 Schools with Exceptional ROI for Your Tuition Investment. In order to make the list, institutions must demonstrate a strong academic program and affordability, and offer excellent opportunities for career prospects after graduation. A return on an academic investment is a highly soughtafter quality, and according to the guide, NJIT is among the top 1% in the United States for occupational earnings power.

"Return on educational investment is very important to our students, and it



has been proven empirically that an NJIT degree provides a pathway to career success. NJIT is ranked No. 1 nationally by Forbes for the upward mobility of students from the lowest income brackets pre-enrollment to the highest postgraduation. Our students have an average of approximately three job offers in hand during their senior year and attain starting salaries almost 20% above their peers across the country," said NJIT President Joel S. Bloom.

In the guide's profile of NJIT, The Princeton Review editors praise the school for "... constantly developing new curriculums to adapt to the marketplace" and notes that, in the past decade, the campus has doubled in size "in a direct

answer to the call for more STEM-oriented skill sets in the workplace.'

The guide describes how "... the Career Development Services office makes sure students are prepared via workshops, practice interviews and two career fairs (and preparatory sessions), and is very good at providing students with job experience."

NJIT students surveyed by the company described the university as "a very diverse campus" with a selling point being "the prestige of it and how many companies love NJIT students: It is a magical place to learn engineering." The Princeton Review staff crunched more than 40+ data points to select the 200 schools for the guide and tally its ranking lists.



NJIT SCORES IN **TOP 5% IN ETHNIC DIVERSITY RANKINGS**

ollege Factual, a leading source of data analytics and insights on college outcomes, has released its 2019 rankings for ethnic diversity, and NJIT scores in the top 5% of colleges whose student body represents a broad diversity.

NJIT is ranked No. 109 out of 2,486 colleges and universities analyzed for ethnic diversity. In New Jersey, NJIT is ranked No. 2 out of 44 colleges, putting NJIT in the

top 5% of all colleges in the state - a distinction NJIT has earned two years in a row.

"We are honored to be recognized for our dedication to diversity, because we work very hard to ensure that students from all backgrounds have the opportunity to learn, grow and develop their talents at NJIT," said university President Joel S. Bloom. "Beginning with pre-college programs that expose

thousands of students from underrepresented populations to positive STEM experiences and continuing with an array of support services for our enrolled students, NJIT recognizes the importance of cultivating diversity in the STEM disciplines. NJIT has been nationally ranked among the top 30 overall and top 10% of U.S. colleges and universities for graduating minority engineers."

In addition to NJIT's Center for Pre-College Programs that offers a broad range of services helping low-income, first-generation precollege students gain college access to and have success in the STEM fields, the university's Educational Opportunity Program (EOP) serves to enhance educational outcomes for populations traditionally underrepresented in STEM, business and architecture. EOP offers academic support along with career and personal counseling to first-time full-time freshman and transfers students who may be educationally and economically challenged.

A B S T R A C T S



New Jersey Governor Phil Murphy has named eight people, including NJIT President Joel S. Bloom, to the recently re-established New Jersey Commission on Science, Technology and Innovation in conjunction with his efforts to strengthen New Jersey's innovation economy.

The commission will receive \$1 million to redevelop infrastructure in New Jersey

Governor Names NJIT President to Commission on Science, Technology and Innovation

and will be composed of 17 members that include the secretary of higher education, the commissioner of education and the CEO of the New Jersey Economic Development Authority. Joining this group and President Bloom will be other leaders of academia and industry.

When it was first created in the 1980s, the Commission on Science, Technology and Innovation became a major research funding source for Rutgers University, Princeton University and NJIT. In particular, the commission funding served to help launch NJIT's transformation into a research university. As an assistant commissioner of education in Governor Tom Kean's administration at that time, President Bloom participated in the commission meetings. In Bloom's initial meeting with Governor Murphy, prior to his candidacy for governor, President Bloom strongly advocated for the restart of the commission, which will look to restore New Jersey as a dominant player in STEM industries and serve as a hub of innovation.

President Bloom said of the appointment, "The economy of today and of the future is and will be driven by technological innovation. That is true across all industries, because technology both creates new products and advances the processes which are used to create, maintain and improve existing products. So, I am very happy to see the return of the Commission on Science, Technology and Innovation and to have the opportunity to serve as a member."

RISKVAL FINANCIAL SOLUTIONS PARTNERS WITH NJIT DATA SCIENTISTS TO MODEL THE BOND MARKET

Researchers at NJIT's Ying Wu College of Computing (YWCC) have partnered with RiskVal Financial Solutions, a New York Citybased global supplier of Software as a Service for pre-trade analysis and risk management. The objective is to use cutting-edge data science techniques to model fluctuations in the bond market.

The project is led by NJIT Professor Zhi Wei of the Department of Computer Science at YWCC, whose research focuses on data analytics, statistical modeling, machine learning and data mining. Assisting was Xiurui Hou, a doctoral student of Wei's specializing in machine learning and statistics.

RiskVal's CEO, Jordan Hu, is an NJIT

alumnus, having earned a master's degree in computer science from the university in 1989. He became a member of the Board of Trustees in 2019.

"During my time at NJIT, I was impressed by the breadth of the knowledge and the quality of the research done by the faculty, and have long wanted to take advantage of it in my company," said Hu.

Craig Gotsman, dean of

YWCC, said partnering with the corporate world to develop actionable research is a key focus of the college.

"This type of partnership allows our faculty to take their research beyond the lab and have real-world impact," said Gotsman. "It also provides a tremendous opportunity for our graduate students who assist in the project, gaining firsthand experience in applying their work."

Wei said that the project lasted one semester



Professor Zhi Wei reviews financial data with doctoral student Xiurui Hou. Wei partnered with RiskVal on a research project to use data science techniques to model fluctuations in the bond market.

and the model was perfected based on data provided by RiskVal. The team will continue to modify and improve the model as additional data becomes available.