This year, six young principal investigators from NYU Tandon garnered prestigious National Science Foundation (NSF) CAREER Awards, given in support of early-career faculty members who have the potential to serve as academic role models and to lead advances in the mission of their department or organization. That’s an especially noteworthy feat considering the school’s tenure and tenure-track engineering faculty numbers just 87.

It’s an impressive percentage; an inspiring group of engineers; an exciting array of world-changing research; and, given that three of the six are women, solid proof of the strides Tandon has made in closing the STEM gender gap.

**Assistant Professor of Computer Science and Engineering**

**Rumi Chunara**

The NSF has honored Rumi Chunara for her work with person-generated data (PGD) from Internet and mobile data sources such as social media sites and wearables. Her project will improve the validity and reliability of measures extracted from PGD and enable improved understanding of high-granularity health risks and outcomes for augmenting public health research and practice.

**Assistant Professor of Electrical and Computer Engineering**

**Yury Dvorkin**

Yury Dvorkin aims to fundamentally rethink and re-engineer the current U.S. power grid to accommodate a high penetration level of distributed energy resources, while improving the overall reliability, resiliency, and energy efficiency of the power sector. He is designing a peer-to-peer platform that will manage customer-end DERs using the utility’s own network infrastructure and control policies. Coupled with a system to calculate appropriate network usage charges, it would be a win-win situation for electricity consumers and utility companies, made possible thanks to Dvorkin’s expertise and the NSF’s support.

**Assistant Professor of Computer Science and Engineering**

**Andrea Silverman**

First came word that Andrea Silverman and her colleagues had garnered a grant from the Marron Institute of Urban Management for their study on the impact of flooding on the urban microbiome (as scientists call the community of micro-organisms living together in a particular habitat) and city residents’ exposure to sewage pathogens (which can include disease-causing bacteria and viruses). Following close on the heels of that good news came her CAREER Award, given for her study of the degradation of antibiotic resistance genes in the environment when exposed to sunlight.

**Assistant Professor of Computer Science and Engineering**

**Julia Stoyanovich**

While much of the research now being done is aimed at developing sophisticated graph analytics and efficiently implementing them for static graphs, Julia Stoyanovich is focused on querying and analysis of evolving graphs — functionality that she explains is urgently needed because of the scalability challenges inherent to evolving graph analysis, and usability and ease of dissemination.

**Assistant Professor of Electrical and Computer Engineering**

**Quanyan Zhu**

Quanyan Zhu explains that it is essential to develop a multidisciplinary approach to working with CPS - which include smart grid utilities, medical monitoring devices, and autopilot avionics, among other vital systems – especially because those complex, coupled layers leave such systems vulnerable to hacking by malefactors seeking to inflict harm on our infrastructure. He aims to establish an integrated game-theoretic framework to engineer resilient, high-confidence CPS.
IMPORTANT TIPS FOR CAREER WORKSHOPS

The following are some strategic tips that might prove useful in your own faculty’s efforts to receive NSF CAREER Awards: the optimal timing for preparing the required 15-page proposal, the secrets to successful mentoring, the importance of maintaining a reference base of winning proposals, and more.

TIP #1
A CAREER proposal needs to propose a topic and work plan that lays out the foundation for the proposer’s career

TIP #2
Provide curated sessions with diversified mentorship

TIP #3
Start mentoring process several months ahead of NSF proposal submission due date

TIP #4
Create a library of successful CAREER proposals

TIP #5
A CAREER proposal should be written with passion

OTHER CONSIDERATIONS:
To the extent applicable, potential to create IP and participation in I-Corps
Include relationships and collaborations, new or emerging, with area research centers and local industry
If applicable, include potential to leverage state faculty matching grants or ability to tap into other local government support mechanism

Visit the following link to view our short video in which several current and former NYU Tandon CAREER Award laureates discuss how they navigated our mentorship workshop process and reveal keys to their success.

engineering.nyu.edu/career-award-tips-video