

# I-PERF: Supporting Underserved Research Fellows

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# I-PERF: SUPPORTING UNDERSERVED RESEARCH FELLOWS

Statistics suggest that Hispanic, Black, and female entrepreneurs receive a disproportionately tiny portion of total venture capital funds in the United States. With this in mind, the National Science Foundation created the I-PERF program. I-PERF supports the professional development of research fellows from underserved groups, offering them hands-on experience within promising research and technology companies, with the goal of increasing diversity in the start-up and entrepreneurial landscape. The program is managed by Dr Teddy Ivanitzki, Rashida Johnson, Rachel Levitin and their colleagues at the American Society for Engineering Education.

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## Inequities in Business Funding

Women and individuals from underserved minority groups often face additional difficulties when trying to secure funding for their businesses compared to white males. Every year, the US Small Business Administration (SBA) awards over 5,000 grants to entrepreneurs, for a total of over \$3.5 billion. According to the SBA's 2013 Annual Report, only 15% of these funds were awarded to firms owned by individuals from underrepresented minority groups, despite the fact that these groups make up about one-third of the US population.

A similar pattern can also be observed in the venture capital market. In 2019, a non-profit collaboration aimed at increasing diversity in the venture industry, called Diversity VC, released a report outlining the results of a study that polled 10,000 start-up founders. They found that 77% of venture-fund recipients were white, while only 1% were African Americans and 9% were women.

Initiatives aimed at supporting the professional development and business endeavours of individuals from underrepresented minority groups are of crucial importance, as they could ensure that these individuals' talent is recognised, valued, and does not go to waste.

Over the past few years, the National Science Foundation (NSF) has introduced and funded a number of projects aimed at supporting start-ups and businesses founded by individuals from underserved minorities, including the Small Business Postdoctoral Research Diversity Fellowship (SBPRDF) program, which started in 2010.

The SBPRDF program allowed postdoctoral fellows specialised in STEM disciplines to acquire real-life research experience in entrepreneurial settings and apply their skills within the technology sector. The program placed a total of 79 fellows in companies for periods of two years, 40% of which were women and individuals from underserved minorities. The vast



majority of those who participated felt that they had significantly benefitted from the program.

The positive feedback offered by those who participated encouraged the NSF to introduce an extension of the SBPRDF program, called the Innovative Postdoctoral Entrepreneurial Research Fellowship, or 'I-PERF'. The primary mission of the I-PERF program, which was created in 2019 and is managed by the American Society for Engineering Education (ASEE), is to support the professional development of research fellows from underrepresented minorities.



### The I-PERF Program

The program, which is part of the Small Business Postdoctoral Research Diversity Fellowship (SBIR) project, is managed by a team at the ASEE, including Rachel Levitin, Rashida Johnson-Okonta, and Dr Teddy Ivanitzki. I-PERF connects postdoctoral researchers with start-up companies, specifically reaching out to women and researchers from underrepresented minority groups, including African Americans, Hispanic Americans, American Indians, and Hawaiian/Pacific Islanders.

Among other things, the I-PERF program was designed to improve the quality of on-the-job training and mentoring offered to research fellows. In addition, it addresses and tries to overcome some of the issues that may prevent individuals from underserved minority groups from accessing venture capital funds for their own business ideas.

Through the program, the ASEE recruits, trains, and mentors talented postdoctoral fellows from underrepresented groups and assigns them to promising research and technology companies, with the goal of increasing diversity in the start-up and

entrepreneurial landscape of the US. The companies that participate in the program must be approved by the NSF and should have been awarded SBIR Phase-II/IIB/TECP grants, which are specifically aimed at supporting small businesses.

When recruiting postdoctoral researchers to the program, on the other hand, the ASEE considers a number of factors. To be eligible to apply for the program, candidates must have a doctoral degree in a STEM discipline from a recognised institution, earned a maximum of 7 years before they submitted their applications, and they must be a US citizen or permanent resident.

The ASEE specifically targets postdoctoral researchers who are socially and economically disadvantaged, are from underserved minority groups, and those who have a disability, as well as US Army veterans and first-generation college graduates. In addition, they prioritised projects or start-ups located in socio-economically disadvantaged states and territories, as outlined by the Established Program to Stimulate Competitive Research (EPSCoR).

All researchers who are assigned to a host company receive a competitive annual salary of \$78,000, as well as health insurance, a \$3,600 relocation allowance, and up to \$4,000 for training. During their one-year placement, they receive valuable entrepreneurship and business training to kick-off their career.

### Valuable Opportunities for Growth

When assigning a postdoctoral fellow to a start-up company, Levitin, Johnson-Okonta and Dr Ivanitzki try to identify the best fit based on the individual's skills, academic background, and career aspirations. Their hope is that they will provide the researchers with valuable experience that could aid their career development or even assist them in founding their own businesses.

The I-PERF program allows postdoctoral researchers who have very little or no professional experience to apply their theoretical knowledge and skills in an entrepreneurial setting. Once they complete their placements, participants are sometimes offered a job at the company they were assigned to. Alternatively, they might be encouraged to create their own start-up, drawing inspiration from their experience at the host company.



The program's intake process has four key stages: the registration phase, the matching phase, the adjudication phase, and the award phase. In the registration phase, companies and fellows register for the program. In the matching phase, the ASEE team start debating about possible matches between applicants and companies. In the adjudication phase, all applications are reviewed, and necessary checks are carried out on all applicants. Finally, in the award phase, applicants and companies are informed about whether they were selected to take part in the program.

### **Addressing Obstacles**

In addition to recruiting, training, and mentoring postdoctoral fellows, Levitin, Johnson-Okonta, Dr Ivanitzki, and their colleagues introduced several initiatives to address the issues that typically prevent individuals from underrepresented groups from attaining capital venture funds.

For instance, they offered training courses focusing on entrepreneurship opportunities for women and individuals from underserved groups, such as the SBA's 'set aside' funding rule, wherein 3% of funding is kept exclusively for small businesses owned and founded by people from underrepresented minority backgrounds.

The ASEE also started delivering regular training sessions about venture capital. The hope is that of ultimately offering participants the opportunity to give presentations about their projects or business ideas to investors. These presentations could ultimately help to improve relations between venture capital organisations and postdoctoral researchers from a variety of backgrounds.

### **Initial Outcomes of the Program**

So far, the companies and postdoctoral fellows who took part in the program have been overwhelmingly satisfied with the program. Remarkably, about 95% of host companies and

participating fellows agreed that the program was mutually beneficial for them.

For instance, Ross Stein, CEO of Temblor Inc., a company that disseminates information about seismic risks and precautions, said that the fellow who was assigned to their company had been an immensely valuable asset. 'She has been proactive in creating an app to track stories regarding our study of earthquakes and has quickly become a very thoughtful and reliable member of the Temblor team,' Stein said. 'We are very grateful to I-PERF that we found such a wonderful match.'

Another fellow who was highly praised by her host company is Holly Pope, who was assigned to a company that creates augmented reality videogames for education purposes, called Immersed Games Inc. 'She was easily able to start making connections with schools and teachers by interviewing them about potential aids that can help them with their teaching plans,' says Lindsey Tropf, CEO of Immersed Games Inc. 'She is working really hard to get the datasets that we need to market our products to a wider audience.'

During the course of the COVID-19 pandemic, due to lockdown restrictions, fellows enrolled in the program were given the opportunity to attend online webinars focusing on a number of different topics related to entrepreneurship. While some of these webinars were specifically about the I-PERF program, others discussed important aspects associated with starting a business and becoming entrepreneurs.

### **Fostering Diversity**

The I-PERF program is an invaluable example of how individuals from underserved minority groups could be supported in their professional development. In the future, the program could serve as an inspiration for other organisations and institutions in the US, as well as in other countries worldwide, paving the way for new initiatives to support the growth and career of postdoctoral researchers of all ethnicities, genders, and cultural backgrounds.

# Meet the researchers



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Rachel Levitin is Manager of the I-PERF Program at the American Society for Engineering Education (ASEE). In the past, she also managed and directed other ASEE programs, including the NDSEG Fellowship Program. Levitin holds a BA in Journalism with a Minor in Music Theory & Music History from the American University in Washington, DC.  
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Dr Teddy Ivanitzki is the Director of Fellowships & Research Opportunities at the American Society of Engineering Education (ASEE). He holds a PhD and an MS in Engineering from Karlsruhe Institute of Technology (KIT), as well as a diploma in Industrial Investment Goods from the University of Bern. Before he started working for the ASEE, Dr Ivanitzki was Managing Director of the Ethiopian Institute of Technology in Mekelle, in Ethiopia. He also served as the Dean of DeVry University's College of Engineering and Information Services and worked at several high-tech start-ups and large businesses, including Atomical-Image LLC., Anatomical Travelogue Inc., and Hewlett-Packard.  
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Rashida Johnson-Okonta is the Program Director of the IPERF Program at the American Society for Engineering Education (ASEE). She holds an MA in Public Policy from Georgetown University and a BA in Government from Smith College. Mrs. Johnson-Okonta has over 12 years of experience with managing and implementing academic programs and initiatives. Before she started working at the ASEE, she was the Director of Development of Cancer Research Programs at Howard University, where she was responsible for securing scholarships for underrepresented students in STEM fields and for developing marketing strategies to increase the visibility of academic programs.  
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