

Session IV: NSF Processes that Fostered Extraordinary Engineering Impacts on Society

Transformational Processes and Frameworks

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Overview

- Career Profile
- University Researcher
- NSF Administrator

Industry

GE

Rolls Royce

Startup,
FM, UTRC

Industry

2022

University

GT UMD

UMD

UMD

UMD

Mason

Government

DoD

NASA

NASA

NSF

NSF

NGO

GE
Foundation

GEM

GEM

1987



Introduction

University Researcher

NSF supported my evolving interests and professional development as a **university researcher** through a variety of innovative discovery-focused and translational research programs.

- **Discovery**
 - SGER
 - CAREER/PECASE
 - MRI
- **Translation**
 - I-Corps
 - GOALI

Discovery:

Small Grant Exploratory
Research Program

University Researcher

SGER supports small-scale,
exploratory, and high-risk research
in the fields of science, engineering,
and education

- Struggled to get first NSF funding
- Worked with a mentor

Discovery:

Faculty Early Career
Development Program

University Researcher

CAREER/PECASE supports early-career faculty who have the potential to serve as academic role models in research and education and to **lead advances** in the mission of their department or organization.

- Awarded on third attempt
- Provided flexible sustained (5yr) funding
- Laid the foundation for my research career (ideas not \$)
- Met the President

Discovery:
Major Research
Instrumentation Program

University Researcher

MRI supports the development or acquisition of multi-user research instruments that are critical to the advancement of science and engineering.

- Provided new insights for academia and industry
- Leveraged instrumentation for research collaborations and tech startup

Translation:
Innovation Corps

University Researcher

I-Corps™ is an immersive, entrepreneurial training program that facilitates the transformation of invention to impact.

- Changed my research career perspective
- Inspired me to launch a tech startup

Translation:

Grant Opportunities for
Academic Liaison with
Industry Proposals

University Researcher

GOALI proposals seek to stimulate
collaboration between academic research
institutions and industry

- Shared university and industry research infrastructure
- Struggled to satisfy industry interests (2 companies) and schedule

Introduction

NSF Administrator

NSF Intergovernmental Personnel Act (IPA) Assignments bring fresh perspectives from across the country, helping influence new directions for research, research infrastructure, and education, including in emerging interdisciplinary areas

- Changed my perspective on university research
- Driven by high-level:
 - Stewardship
 - Thoughtful intentional program frameworks
 - Commitment to societal impact

Industry-University Cooperative Research Center Program

NSF Administrator

The **IUCRC** program provides a structure for academic researchers to conduct fundamental, pre-competitive research of shared interest to industry and government organizations.

- Connected university researchers with industry partners through proven frameworks to bridge their respective cultures
- Learned about Center Leadership

Innovation Corps

NSF Administrator

I-Corps™ is an immersive, entrepreneurial training program that facilitates the transformation of invention to impact.

- Focused programs on North Stars
 - Deep Technologies
 - Commitment to Commercialization
 - Inclusivity
- Partnered with the GEM Consortium

Thank You!
Questions?