

The NSF logo is located in the top right corner of the slide. It features a blue globe with the letters 'NSF' in white, surrounded by a golden gear-like border.

TIP

Directorate for
Technology, Innovation
and Partnerships

April 2022

A Pivotal Moment for the Nation and Society



Climate change



Equitable access to education, health care



Critical and resilient infrastructure



TIP Technology, Innovation and Partnerships

A Changing Science and Engineering Enterprise Can Meet This Moment



Pace of discovery accelerated by data, emerging technologies



Demand for societal and economic impact



Opportunity to leverage partnerships



Technology, Innovation and Partnerships (TIP) Directorate

TIP harnesses the nation's vast and diverse talent pool to advance critical and emerging technologies, address pressing societal and economic challenges, and accelerate the translation of research results from lab to market and society. TIP improves U.S. competitiveness, growing the U.S. economy and training a diverse workforce for future, high-wage jobs.



A New “Horizontal”: Strengthen, Scale Use-Inspired and Translational Research



TIP Technology, Innovation and Partnerships

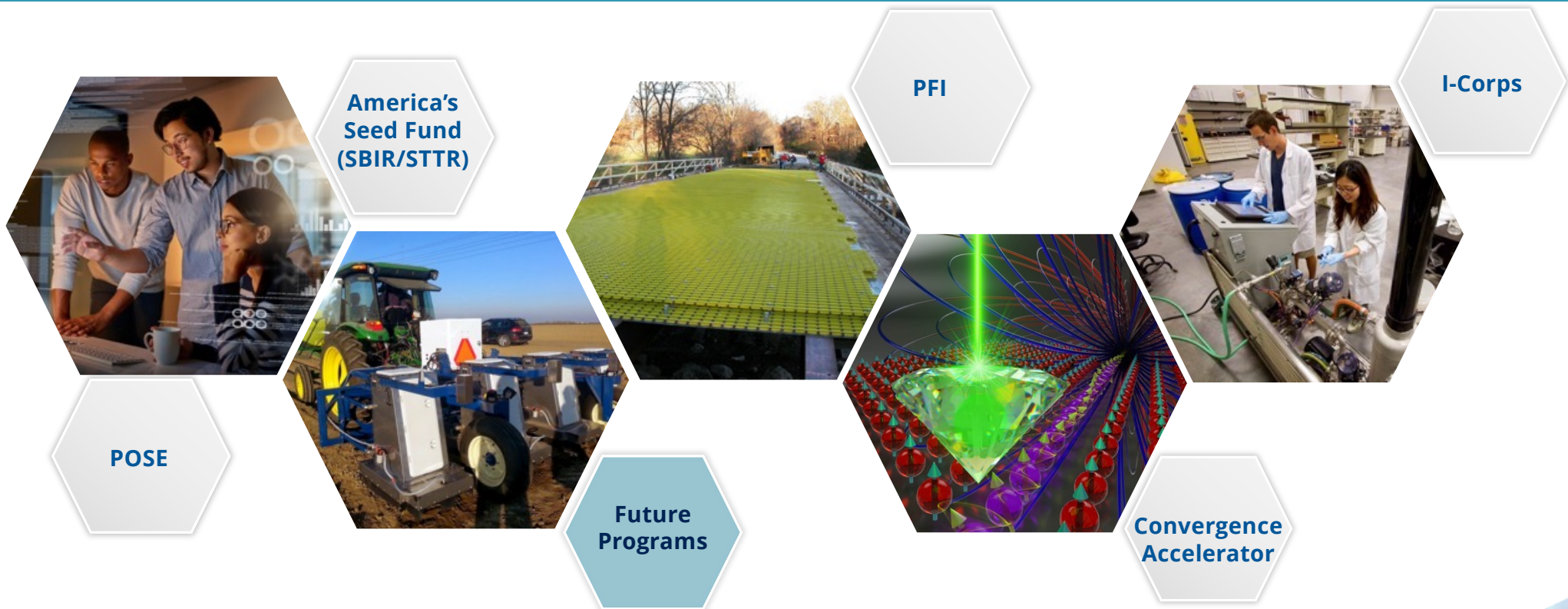
TIP Focuses & Cross-Cutting Platform

TIP integrates with NSF's existing directorates and fosters partnerships—with government, industry, nonprofits, civil society and communities of practice—to leverage, energize and rapidly bring to society use-inspired research and innovation.

Fostering Innovation Ecosystems	Establishing Translation Pathways	Partnering to Engage the Nation's Diverse Talent
Nurtures regional and national innovation and technology ecosystems to support researchers and innovators to converge, develop and accelerate use-inspired research for societal impact.	Supports startups through a lab-to-market platform and establishes new pathways for translating research results for society.	Advances and deepens high-impact, public and private partnerships across all areas of science, engineering and education to cultivate innovation ecosystems, create technology solutions, and support future STEM leaders.



TIP Programs



- Foster regional innovation and technology ecosystems
- Create experiential learning opportunities
- Prepare students for the wide range of potential future jobs



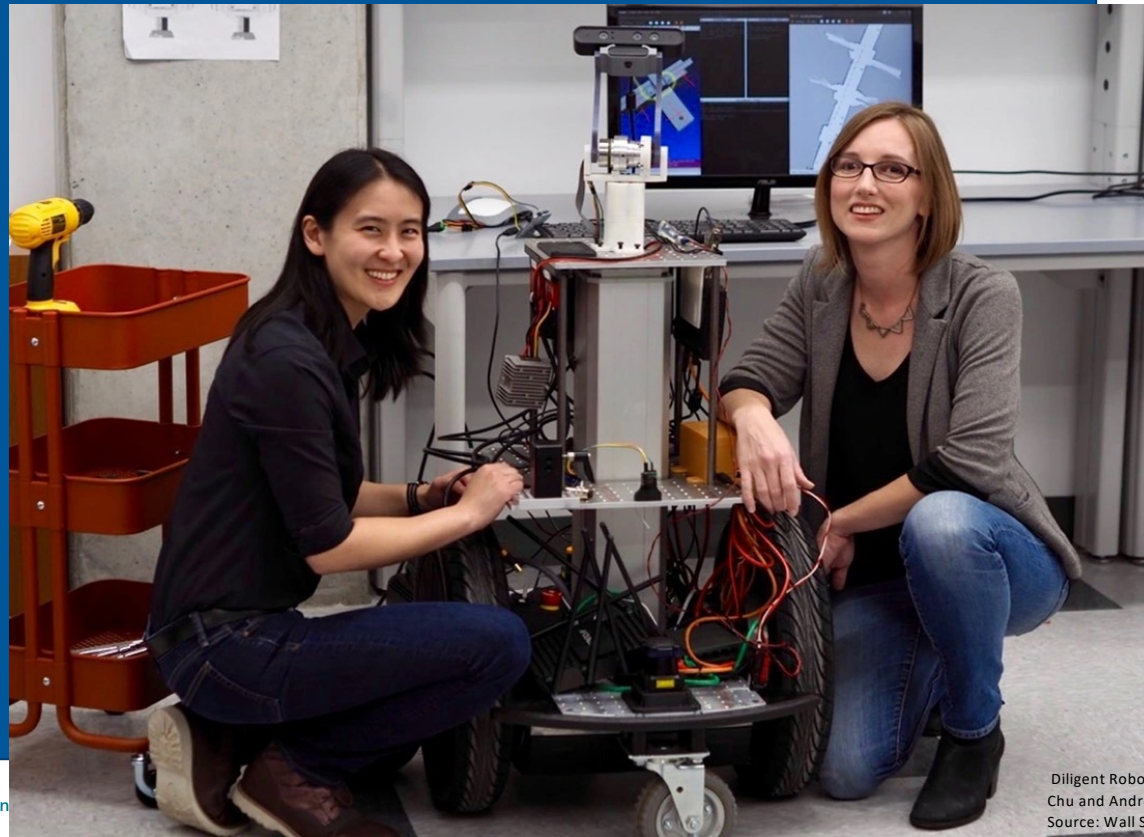
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NSF: Making an Impact – Example of a journey through TIP innovation programs



TIP

Diligent Robotics



Diligent Robotics Co-Founders Vivian
Chu and Andrea Thomaz
Source: Wall Street Journal



TIP Technology, Innovation

The Beginning

July 2008 - July 2011

An HRI Approach to Robot Learning by Demonstration
**Information and Intelligent Systems (IIS) Core
Programs, Robust Intelligence**

March 2010 - March 2015

Socially Guided Machine Learning
Faculty Early Career Development (CAREER)

Sept 2013-Sept 2016

Learning from Demonstration for Cloud Robotics
National Robotics Initiative



I-Corps: Healthcare Service Robots



Source: America Seed Fund

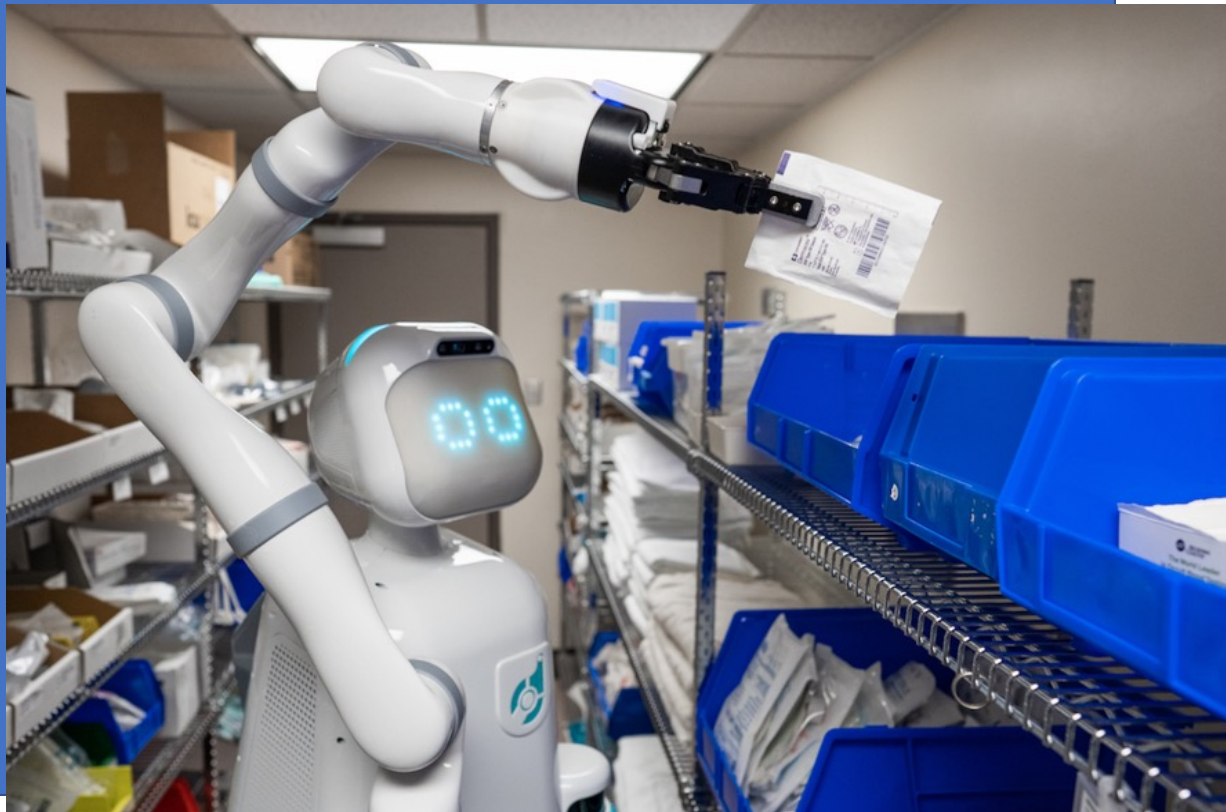


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SBIR Phase I: Developing healthcare service robots to improve hospital workflow



SBIR Phase II: Mobile Manipulation Hospital Service Robots



TIP Techn

Today



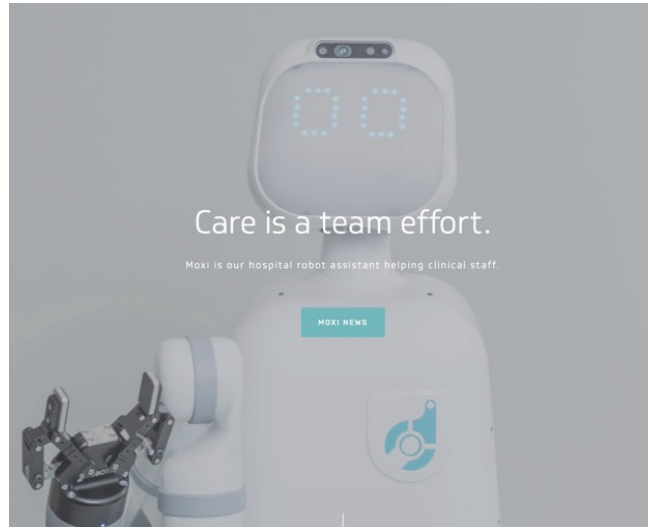
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Source: Dallas Morning News

SBIR Phase II: Mobile Manipulation Hospital Service Robots



Diligent Robotics



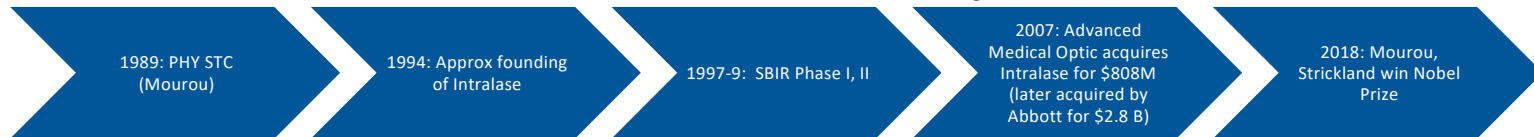
- 0953181: CAREER: Socially Guided Machine Learning (CISE/IIS)
- 1547769: I-Corps: Healthcare Service Robots
- 1621651: SBIR Phase I: Developing healthcare service robots to improve hospital workflow
- 1738375: SBIR Phase II: Mobile Manipulation Hospital Service Robots
- [Watch their video](#)
- <https://www.diligentrobots.com/press>



The LASIK story



This SBIR Phase I project investigated the scientific, technical and commercial feasibility of laser surgical systems for the treatment of glaucoma.



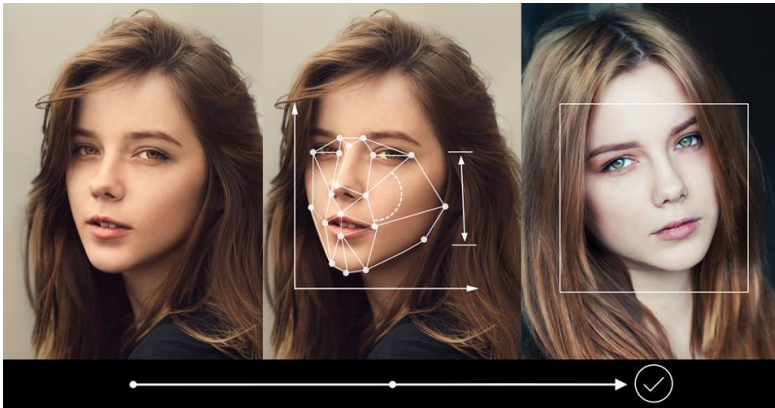
Center for
Ultrafast Optical
Science

This SBIR Phase II project developed an optimized ultra-short pulsed laser surgical device for high precision surgery in the sclera of the eye. This tool enabled novel, office-based procedures to treat serious and common conditions, such as glaucoma and presbyopia.

8920108 Caldwell
9761528 Hamilton
9901726 Sahai








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April 6, 2018

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**America's
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TIP Summarized

- Use-inspired, challenge-driven, convergent research
- Innovation and technology translation
- Leveraging the virtuous cycle of foundational and use-inspired research
- Long-term, large scale
- Public-private partnerships
- Education, workforce, diversity



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Contact TIP:
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