



Michael E. Zwick, Ph.D.
Senior Vice President for
Research and Institutional
Official



Michele Norin
Senior Vice President and
Chief Information Officer



RUTGERS UNIVERSITY
Office for Research

Research Townhall



Vince Smeraglia, J.D.
Executive Director, New
Ventures



**Deborah Perez
Fernandez, Ph.D.**
Executive Director,
Technology Transfer



Hila Berger, MPH, CHC, CIP
Assistant Vice President,
Research Regulatory Affairs

November 18, 2024
Noon-1:30pm



Format

- All participants are muted.
- All questions should be submitted in the Q&A section.
- Presenters will each have 10-15 minutes to present.
- We will pose questions from the Q&A after each segment.
- If there is time at the end, the presenters will answer additional questions.
- The slides will be available on our website after the town hall.
- Questions not answered during the townhall will be answered and posted on our website within a few weeks.

Agenda

Rutgers Research Trends

Dr. Michael E. Zwick

Artificial Intelligence and Research Data at Rutgers

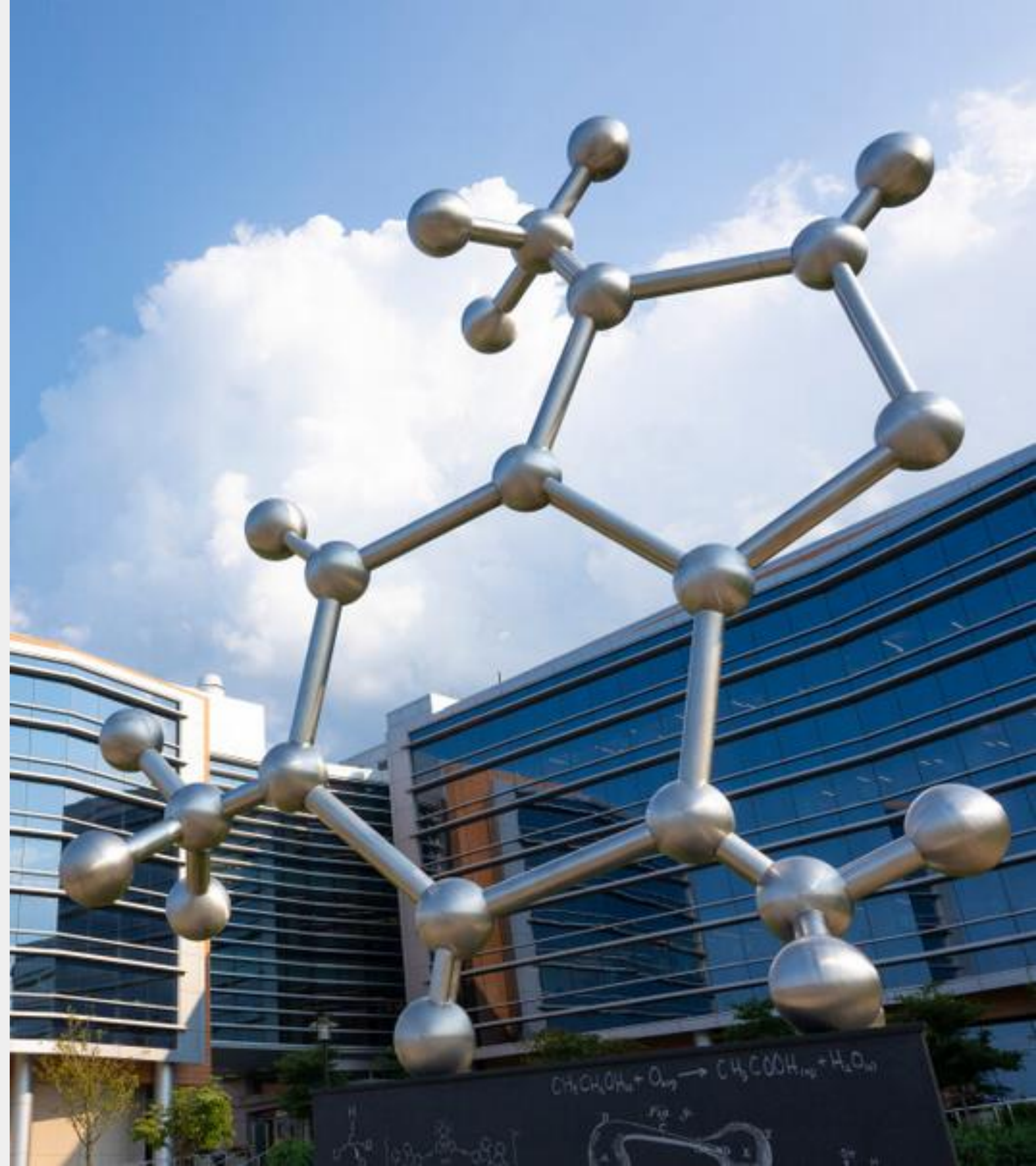
Michele Norin

Research Security Trends

Hila Berger

Technology Commercialization

Deb Perez Fernandez and Vince Smeraglia

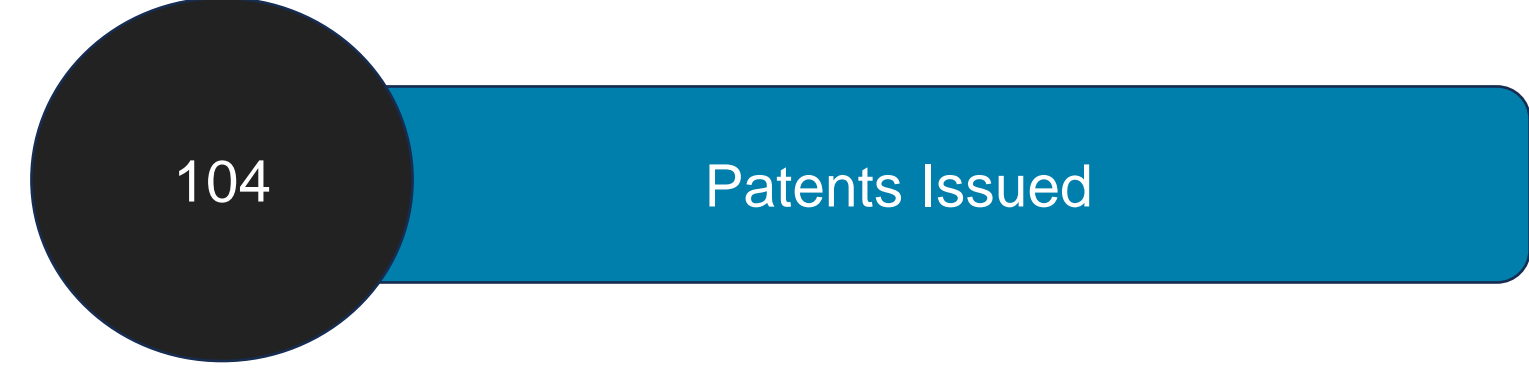
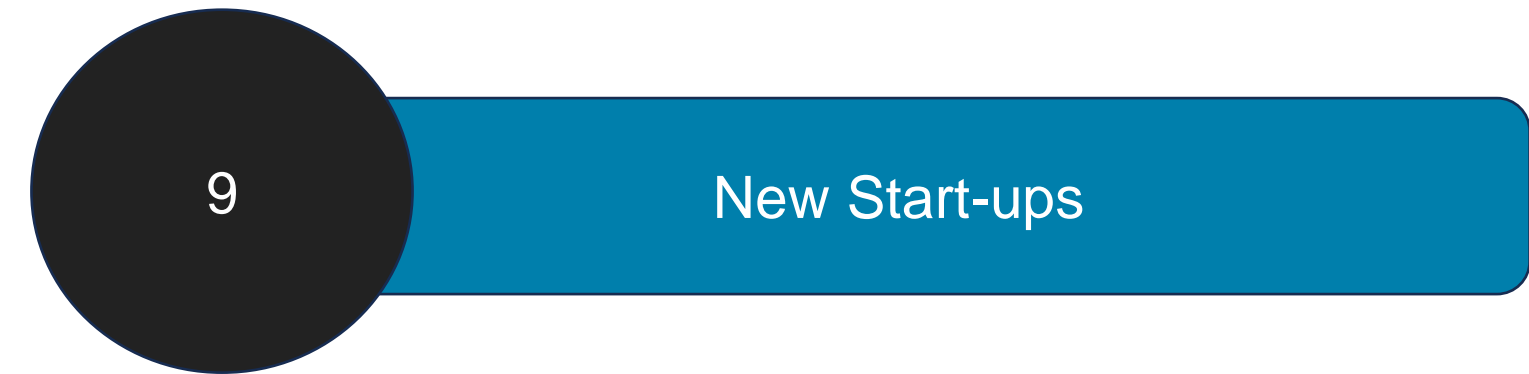
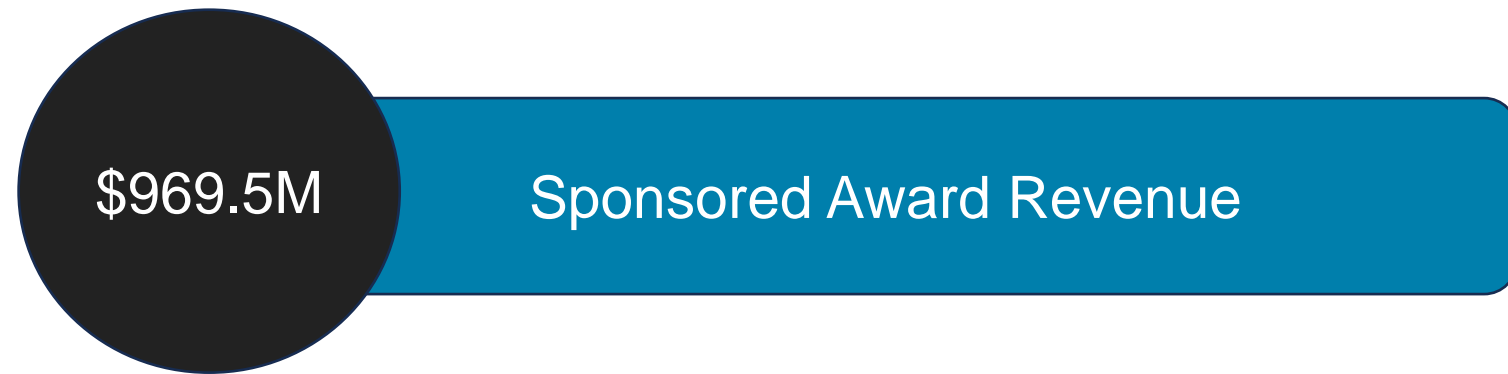




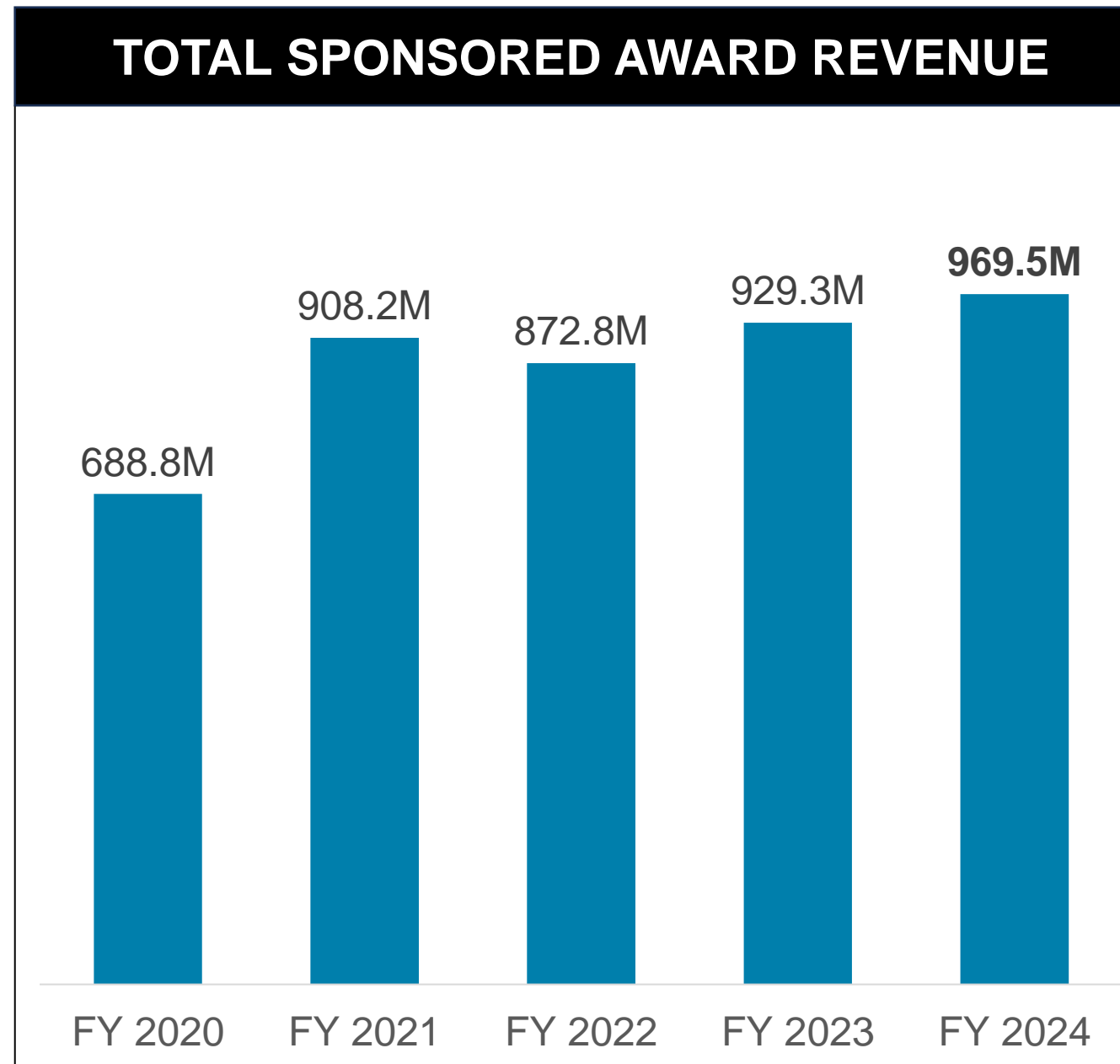
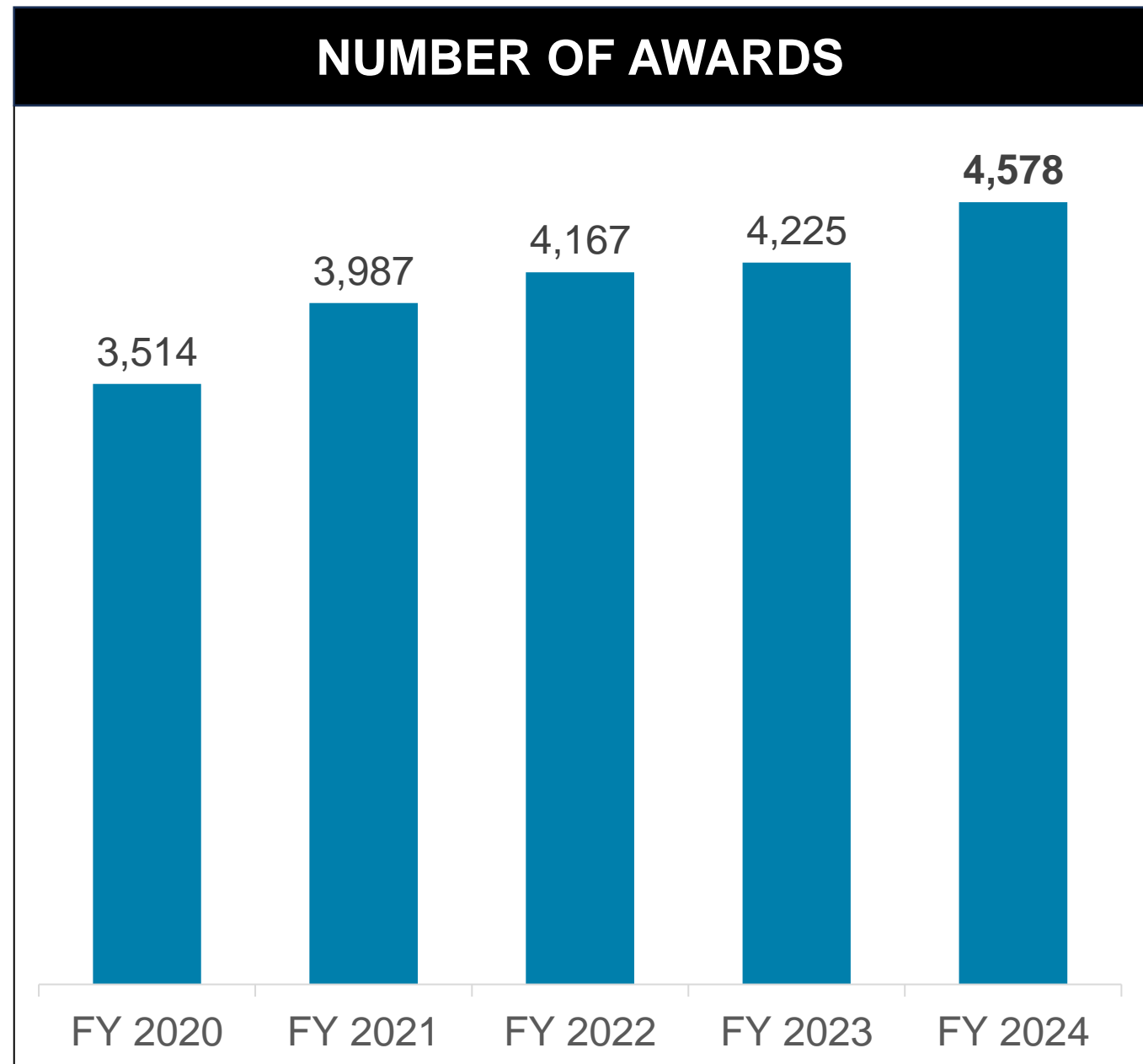
Michael E. Zwick, Ph.D.
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Official

Rutgers Research Trends

Rutgers PI's Had A Fantastic Year!



Unprecedented Growth (FY 20-FY 24)



30%

Increase in Awards

40%

Increase in Revenue

*This data excludes COVID relief awards received on behalf of Rutgers by University Finance and Administration.

**This data excludes FY 2024 sponsored award funding used for building construction.

Research Success Stories

5 New Rutgers Fellows of the American Association for the Advancement of Science

2 New Fellows of the National Academy of Inventors

2 Edison Patent Awards

4 Fellowships at the Institute for Advanced Study

...And Many More!

Rutgers Health Officials Celebrate \$47.5 Million Grant to Improve Health Care in New Jersey



Prizes & Awards
USDOT Awards Rutgers CAIT \$5M to Study Sustainable Cement Alternatives



Health
Doctoral Student's Research Finds COVID Worsened Nurse Burnout



Unraveling the Mysteries of the Cell

Grants will support biology professor's research on methods of preventing Alzheimer's, Parkinson's, and other diseases

September 11, 2023
By Eileen Reinhard

Risks To Research and Innovation

Fringe Expense

Compensation For Some Personnel Exceeding
the Sponsor Cap

Increased Regulation

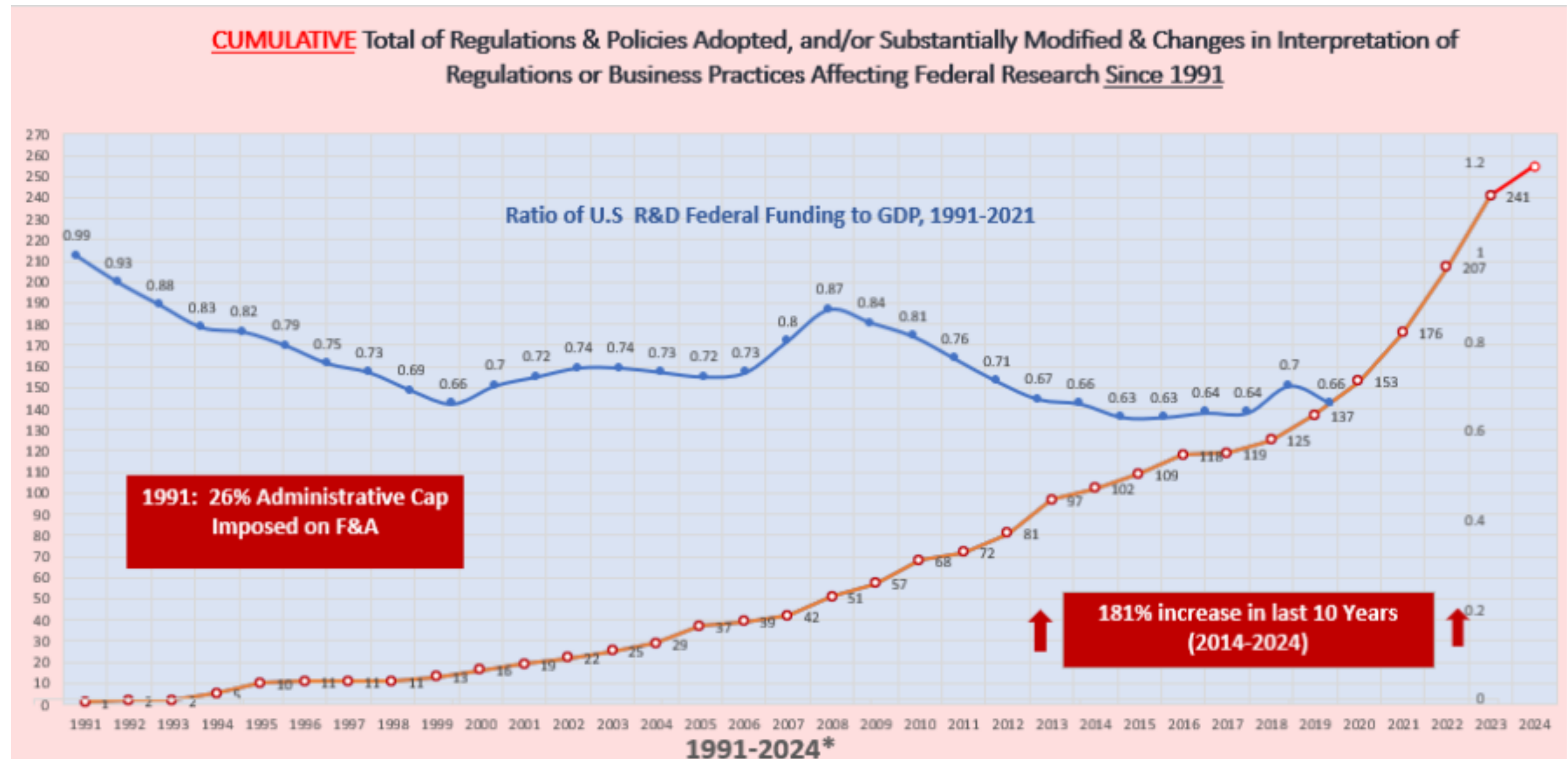
Aging Research Facilities

A New President and Congress

Regulatory Changes, The Issues Extend Beyond Financial

Ratio of U.S. R&D Funding to GDP has fallen since 1991.

The number of new, or modified government regulations continues to increase.



Source: <https://www.cogr.edu/cogr-list-regulatory-changes-1991-0>

How We Reduce Risk and Improve the Enterprise

Work as a **TEAM**

Seek **SIMPLICITY**

Pursue **COLLABORATION**

Improve **PROCESSES**

Simplified the user experience in our enterprise research platforms.

Improved IRB turnaround times drastically.

Developed committees to advise the SVPR on issues faculty face.

Improve communication of research and innovation information.

Questions



Michele Norin
Senior Vice President and
Chief Information Officer

Artificial Intelligence and Research Data at Rutgers

Planning Principles

- Encourage and foster innovation
- Initiatives and investments need to be coordinated
- Minimize redundancies and duplication of effort
- Thoughtful and responsible deployments and usage
- Strive for impact at scale
- Ensure compliance with cybersecurity and accessibility policies and practices
- Do not put sensitive university data into unsanctioned cloud tools

Structure for Next Steps



- **Cabinet subgroup** provides executive oversight for u-wide strategy.
- **Core planning committee** will oversee, summarize, and develop an overall strategy based on the activities of working groups. **Output will be a report to cabinet subgroup with findings and recommendations.**
- **Working groups** will focus on Teaching and Learning, Research, Clinical, and Administration.

Tasks for Working Groups

- Collect information about current environment
- Identify opportunities for education and awareness
- Identify and reinforce requirements for protecting institutional data
- Identify and manage a core set of pilot projects
- Determine short-term investment needs for software and infrastructure

Clinical and Research Data Warehouse

The Clinical and Research Data Warehouse (CRDW) at Rutgers is a secure, HIPAA-compliant central repository that includes diverse healthcare data and essential analytical tools for researchers to gain insights into medical conditions, outcomes, and treatments.



CRDW at Rutgers

- Rutgers and Rutgers Health teams securely collect and unite wide-ranging, sensitive clinical and research data including:
 - Electronic Medical Records (EMRs)
 - Clinical Trial Management System (CTMS)
 - Tumor Registries
 - Biospecimen Repositories
 - Cutting-edge medical imaging and genomics
- Researchers, clinicians, and healthcare professionals can utilize CRDW to support research goals of tailoring treatments, refining medical practices, or uncovering disease insights

Research Benefits

- Access to a rich repository of diverse and comprehensive clinical data
- Enhanced research capabilities through advanced data analytics tools and resources
- Streamlined data management processes and secure storage for sensitive data
- A centralized platform for collaboration among researchers, clinicians, and stakeholders
- Access to a team of experts from the Office of Advanced Research Computing (OARC)




Accessing CRDW

- The CRDW website (crdw.rutgers.edu) makes it easy to get started, with all information in one place:
 - Need access to data hosted in CRDW?
 - Want to host your own data from a project in CRDW?
 - Need a consultation with CRDW staff scientists?
- Researchers, clinicians, and stakeholders associated with Rutgers and RWJBH, as well as partner institutions, are typically granted access
- Costs for CRDW services follow a set fee schedule



Central Repository for Research Data

Rutgers is implementing a new research data platform that will serve as the foundation for an institutional repository designed to efficiently manage the university's research datasets. The system will provide a unified experience for users, simplifying how they access and retrieve data.



Research Benefits

- The repository will serve as a centralized location tended by professionals to store research data at the university
- This effort will be the first of its kind at Rutgers and a critical step toward achieving enhanced management of research data
- State-funded through various grants and a collaboration across the Office of Information Technology (OIT)
- Projected to be fully operational and open to researchers in Spring 2025

Questions



Hila Berger, MPH, CHC, CIP
Assistant Vice President,
Research Regulatory Affairs

Research Security Trends

What Is Research Security?

National Science Foundation

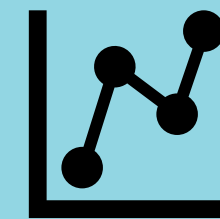
“Safeguarding the research enterprise against the misappropriation of research and development to the detriment of national or economic security, related violations of research integrity, and foreign government interference.”



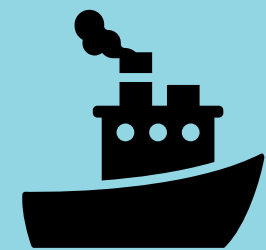
Cybersecurity



Foreign Travel



Data Security



Export Compliance

Trends in Research Security



INCREASED SCRUTINY
AND REQUIREMENTS



INSTITUTIONAL STRATEGY
EVOLVING (SECURE)



ENHANCED GLOBAL
COLLABORATION

A close-up, black and white photograph of a microscope's objective lenses, showing their cylindrical shapes and metallic textures. The background is dark, and a red diagonal shape is visible in the bottom left corner of the slide.

Federal Regulations Links and Resources

- [Home Page | Data Sharing \(nih.gov\)](#)
- [COGR's NIH Data Management and Sharing Readiness Guide | Council on Governmental Relations](#)
- Release from OSTP February 2023 https://www.whitehouse.gov/wp-content/uploads/2023/02/RS_Programs_Guidance_public_comment.pdf
- Release from OSTP July 2024 [OSTP-RSP-Guidelines-Memo.pdf \(whitehouse.gov\)](#)
- COGR summary [Overview of OSTP Guidelines for Research Security Programs at Covered Institution clean copy july 12 2024 REVISED.pdf \(cogr.edu\)](#)
- Dept. of Justice [NPRM on Provisions Pertaining to Preventing Access to U.S. Sensitive Personal Data and Government-Related Data](#) by Countries of Concern or Covered Persons
- Implementation Update for Data Management and Access Practices Under the Genomic Data Sharing Policy ([NOT-OD-24-157](#)) • Requires compliance with NIST 800-171

NSPM-33

THE WHITE HOUSE
WASHINGTON
January 14, 2021

NATIONAL SECURITY PRESIDENTIAL MEMORANDUM - 33

MEMORANDUM FOR THE VICE PRESIDENT
THE SECRETARY OF STATE
THE SECRETARY OF DEFENSE
THE ATTORNEY GENERAL
THE SECRETARY OF THE INTERIOR
THE SECRETARY OF AGRICULTURE
THE SECRETARY OF COMMERCE
THE SECRETARY OF HEALTH AND HUMAN SERVICES
THE SECRETARY OF TRANSPORTATION
THE SECRETARY OF ENERGY
THE SECRETARY OF EDUCATION
THE SECRETARY OF VETERANS AFFAIRS
THE SECRETARY OF HOMELAND SECURITY
THE ASSISTANT TO THE PRESIDENT AND CHIEF OF STAFF
THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY
THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET
THE DIRECTOR OF NATIONAL INTELLIGENCE
THE DIRECTOR OF THE CENTRAL INTELLIGENCE AGENCY
THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS
COUNSEL TO THE PRESIDENT
ASSISTANT TO THE PRESIDENT, DEPUTY COUNSEL TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS, AND NATIONAL SECURITY COUNCIL LEGAL ADVISOR
THE DIRECTOR OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY
THE DIRECTOR OF THE NATIONAL SCIENCE FOUNDATION
THE ADMINISTRATOR OF THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
THE DIRECTOR OF THE FEDERAL BUREAU OF INVESTIGATION
THE SECRETARY OF THE SMITHSONIAN
THE DIRECTOR OF THE NATIONAL INSTITUTES OF HEALTH

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL



GUIDANCE FOR IMPLEMENTING NATIONAL SECURITY PRESIDENTIAL MEMORANDUM 33 (NSPM-33) ON NATIONAL SECURITY STRATEGY FOR UNITED STATES GOVERNMENT-SUPPORTED RESEARCH AND DEVELOPMENT

A Report by the

Subcommittee on Research Security

Joint Committee on the Research Environment

January 2022

CHIPS And Science Act

136 STAT. 1366 PUBLIC LAW 117-167—AUG. 9, 2022

Public Law 117-167
117th Congress

An Act

Aug. 9, 2022 Making appropriations for Legislative Branch for the fiscal year ending September 30, 2023, and for other purposes.

As it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

Sec. 1. Table of contents.

Sec. 2. References.

DIVISION A—CHIPS ACT OF 2022

- Sec. 101. Short title.
- Sec. 102. Creating helpful resources to produce semiconductor (CHIPS) for America Act.
- Sec. 103. Semiconductor incentive.
- Sec. 104. Opportunity and inclusion.
- Sec. 105. Additional R&D supporting investments.
- Sec. 106. Appropriations for various supply chain innovation.
- Sec. 107. Advanced manufacturing workforce credit.

DIVISION B—RESEARCH AND INNOVATION

- Sec. 1080. Table of contents.
- Sec. 1081. Short title.
- Sec. 1082. Definitions.
- Sec. 1083. Exemptive effect.

TITLE I—DEPARTMENT OF ENERGY SCIENCE FOR THE FUTURE

- Sec. 10101. Mission of the Office of Science.
- Sec. 10102. Basic energy science program.
- Sec. 10103. Biological and environmental research.
- Sec. 10104. Advanced scientific computing research program.
- Sec. 10105. Fusion energy research.
- Sec. 10106. High energy physics program.
- Sec. 10107. Nuclear physics program.
- Sec. 10108. Science laboratory infrastructure program.
- Sec. 10109. Accelerator research and development.
- Sec. 10110. Isotope research, development, and production.
- Sec. 10111. Increased collaboration with industry and academia.
- Sec. 10112. High-impact basic research activities, human resources program, Office of Science computing biological threat preparedness research initiative, nuclear infrastructure and research equipment program, administration of appropriations.
- Sec. 10113. Established program to stimulate competitive research.
- Sec. 10114. Research security.

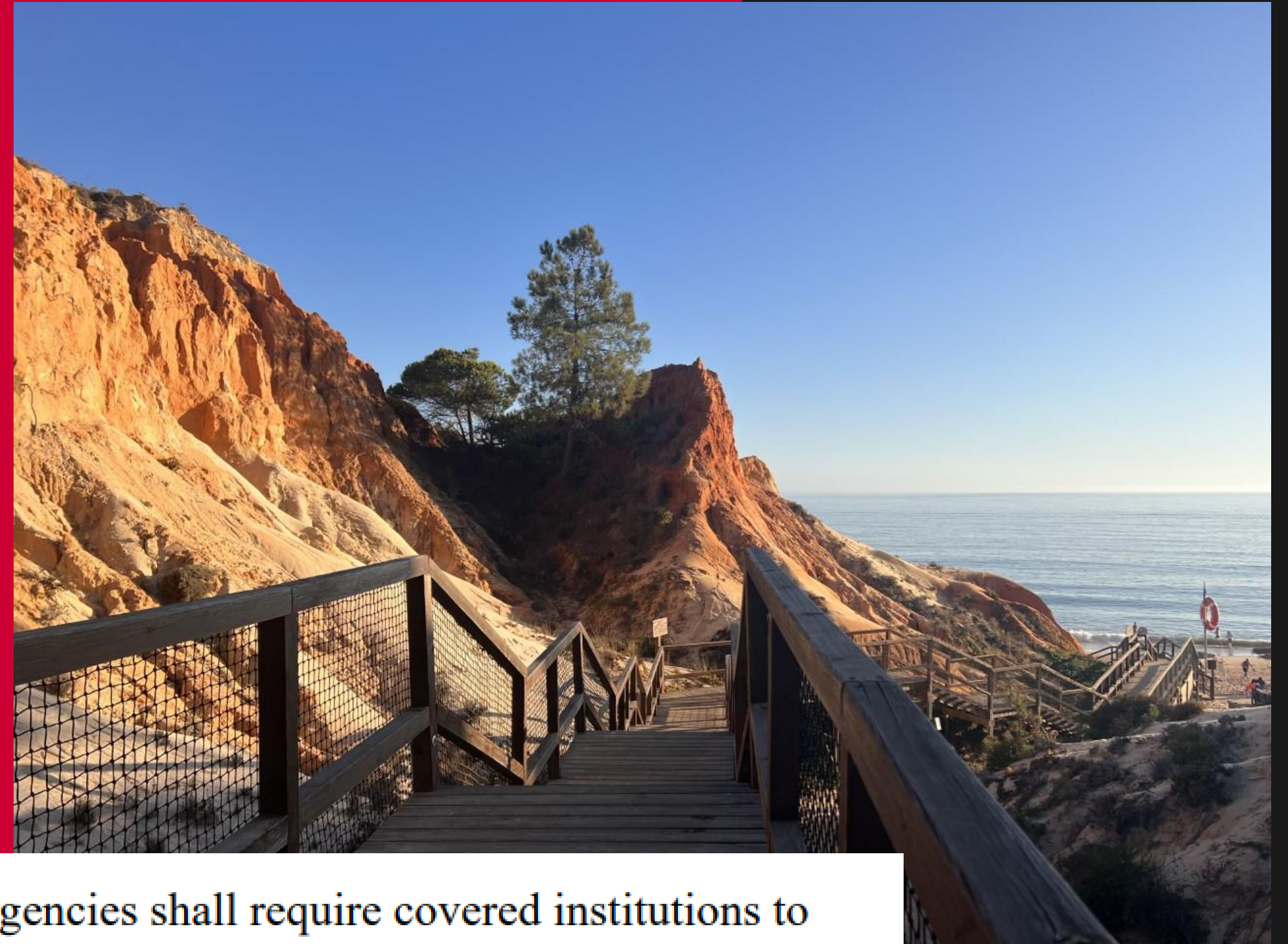
TITLE II—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY FOR THE FUTURE

- Sec. 10201. Definitions.
- Sec. 10202. Subdivision of Appropriations.
- Sec. 10203. Subdivision of appropriations.

NSPM-33

Five key areas addressed in NSPM33:

1. Disclosure Requirements and Standardization
2. Digital Persistent Identifiers
3. Consequences for Violation of Disclosure Requirements
4. Information Sharing
5. **Certification of Research Security Programs**



As a standardized requirement, federal research agencies shall require covered institutions to certify that their research security programs include elements relating to (1) cybersecurity; (2) foreign travel security; (3) research security training; and (4) export control training, as appropriate. These elements are described in more detail below.

SECURE Program



Safeguarding the Entire
Community in the U.S.
Research Ecosystem: funded
by NSF

Mission:

Empower the research community to make security-informed decisions about research security concerns

Approach:

Providing information, developing tools, and providing services

Audience:

IHEs, non-profit research institutions, and small and medium-sized businesses

Research Regulatory Affairs



Hila Berger,
MPH, CHC, CIP
Assistant Vice President,
Research Regulatory Affairs

Research Administration

- Research and Sponsor Programs (Pre-Award)
- Research Financial Services (Post-Award)
- Research Contract Services
- **Research Regulatory Affairs**

Internal Review Board

Human Research
Protection

Export Control

Research Security

Research Regulatory Affairs works collaboratively with many units across Rutgers.

OfR's Key Research Compliance Functions



**Hila Berger, MPH,
CHC, CIP**
Assistant Vice President,
Research Regulatory Affairs

Human Research Protection Program

25 FTEs

IRB

Quality Assurance & Evaluation

Reliance and Collaborations

DRAFT/Pre-review and Exempt Review

Education and Outreach

Clinical Trials Compliance

Export Compliance

4 FTEs

Export Controls Compliance

VISA & Travel Compliance

MTA Compliance

Foreign Influence Compliance

Research Security

Vacant FTEs

Research Security Reviews

Research Security Training

Risk Mitigation Plans

Research Integrity

2 FTEs

Responsible Conduct of Research Training

Conflict of Interest Compliance

Research Misconduct Investigations

Trends in Research Security



INCREASED SCRUTINY
AND REQUIREMENTS



ENHANCED GLOBAL
COLLABORATION

PREPAREDNESS & TRANSPARENCY

Questions



Vince Smeraglia, J.D.
Executive Director,
New Ventures



**Deborah Perez
Fernandez, Ph.D.**
Executive Director,
Technology Transfer

Technology Commercialization

Why Technology Transfer

Bayh-Dole Act of 1980

Universities and nonprofits are allowed to commercialize inventions resulting from federal funding



IMPACT society with innovations

RAISE visibility of university research

RECRUIT, RETAIN, AND REWARD faculty, post-docs and students

STIMULATE economic development

CREATE new collaborative funding opportunities

RECEIVE credit and recognition for contributions

Governance

Patent Policy (50.3.19)

Preserve and protect intellectual property.

Copyright Policy (50.3.7)

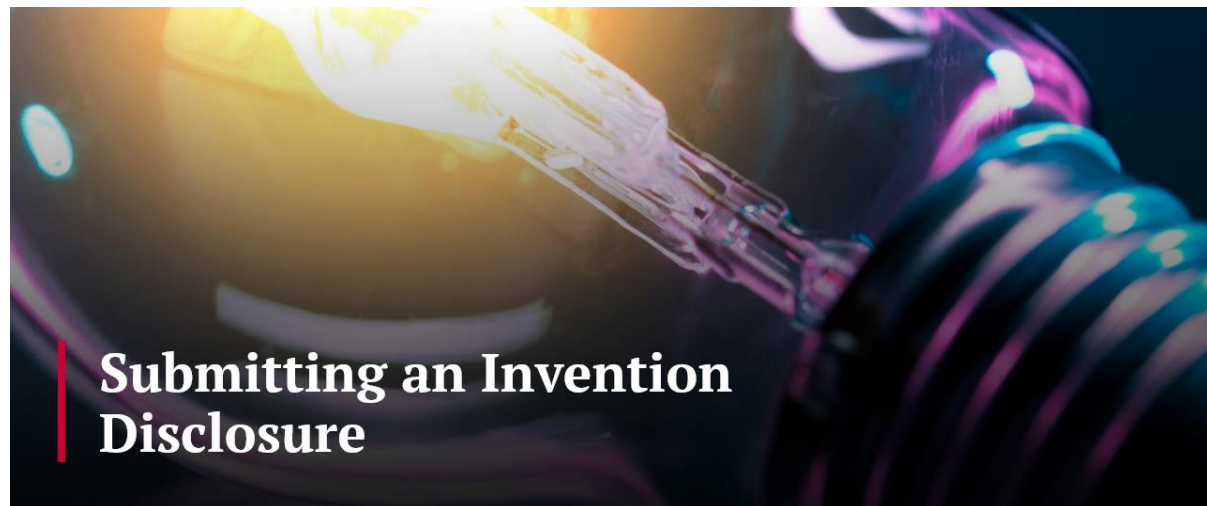
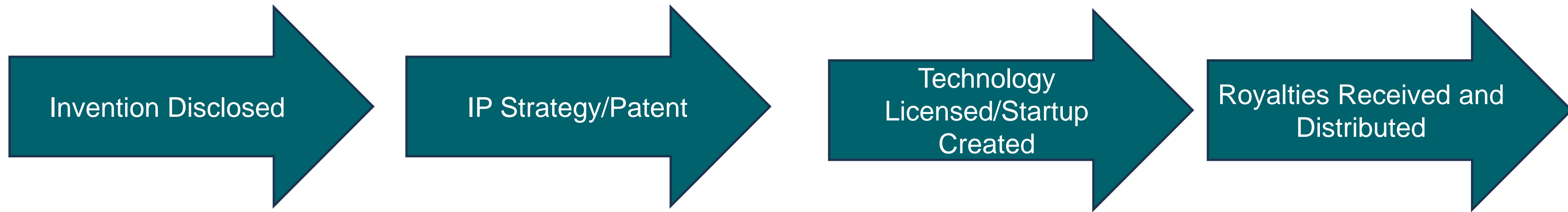
Preserve and protect tangible expression of original works of authorship for Rutgers Legacy employees.

Legacy UMDNJ Policy Associated With Intellectual Property: Copyrights & Royalties (50.3.15)

Preserve and protect tangible expression of original works of authorship for Rutgers Legacy employees.

How It Works

The Technology Transfer and New Ventures Teams Are Here to Assist You Throughout This Process



Submitting an Invention Disclosure

<https://research.rutgers.edu/faculty-staff/inventions-commercialization/submitting-invention-disclosures>

Technology Transfer and New Ventures = Rutgers Innovation

Technology Transfer

Assess Notice of Invention (NOI)

Determine IP strategy

File for patents/trademarks/certificates

Market innovation and find suitable partners

Negotiate and execute licenses and other agreements

Maintain an accurate database of all innovations

Ensure compliance including with Bayh-Dole Act

Ensure contract compliance

Innovation Recognition/Showcase Awards and Events

New Ventures

Rutgers Business and Startup Mentoring/Consulting

Provide access to education (e.g. NSF I-Corps, Activate)

Review pitch decks before sending to investors/funders

Introduction to service providers (e.g. lawyers)

Identify and approach business founders

Identify and access funding opportunities

Events with featured speakers

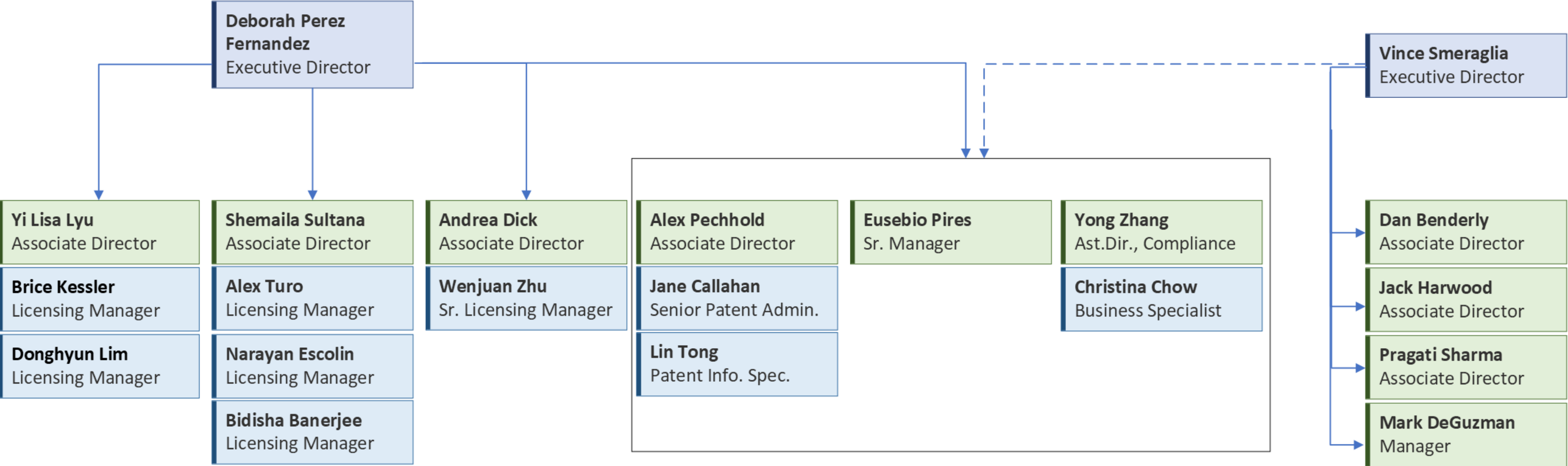
Assisting with business development

Manage the TechAdvance/HealthAdvance Funding

Rutgers Innovation

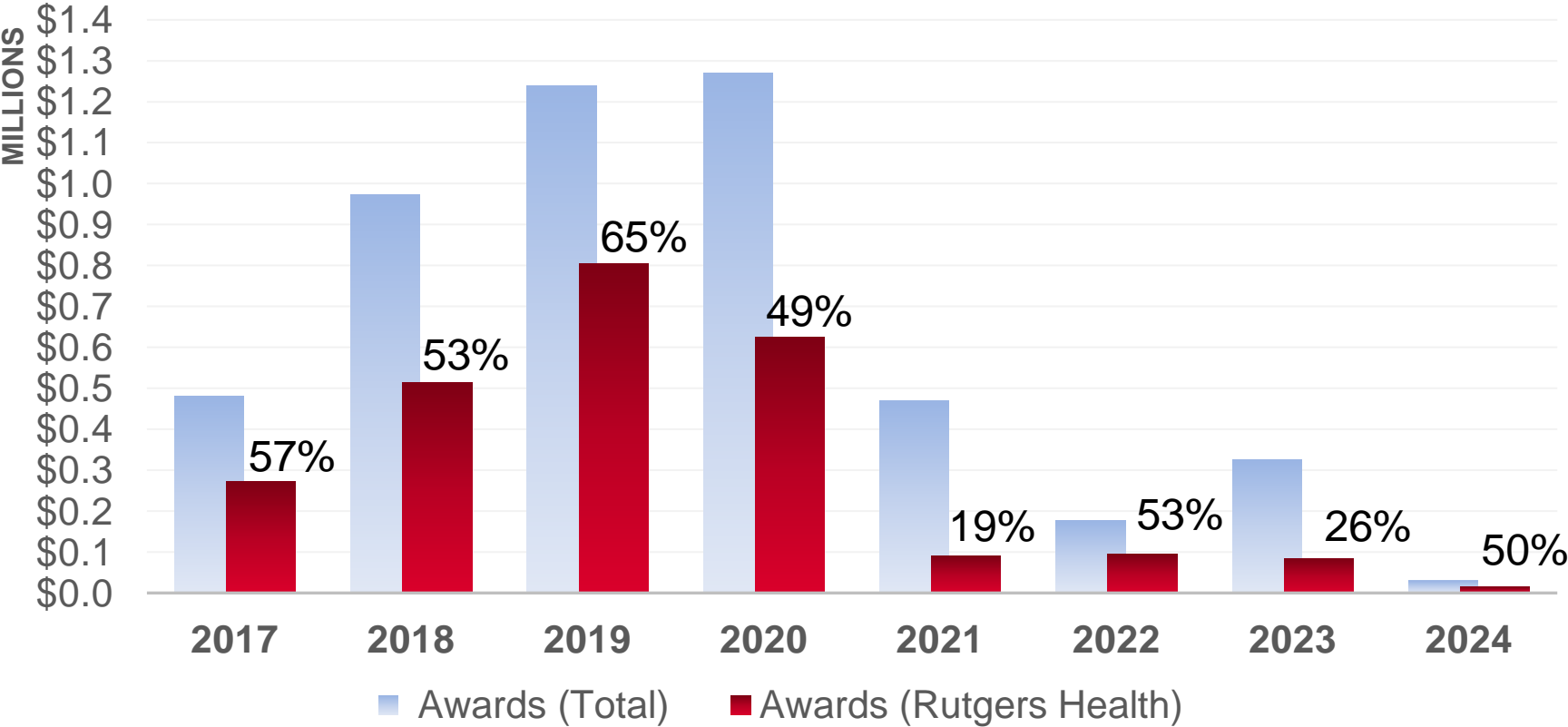
Technology Transfer

New Ventures



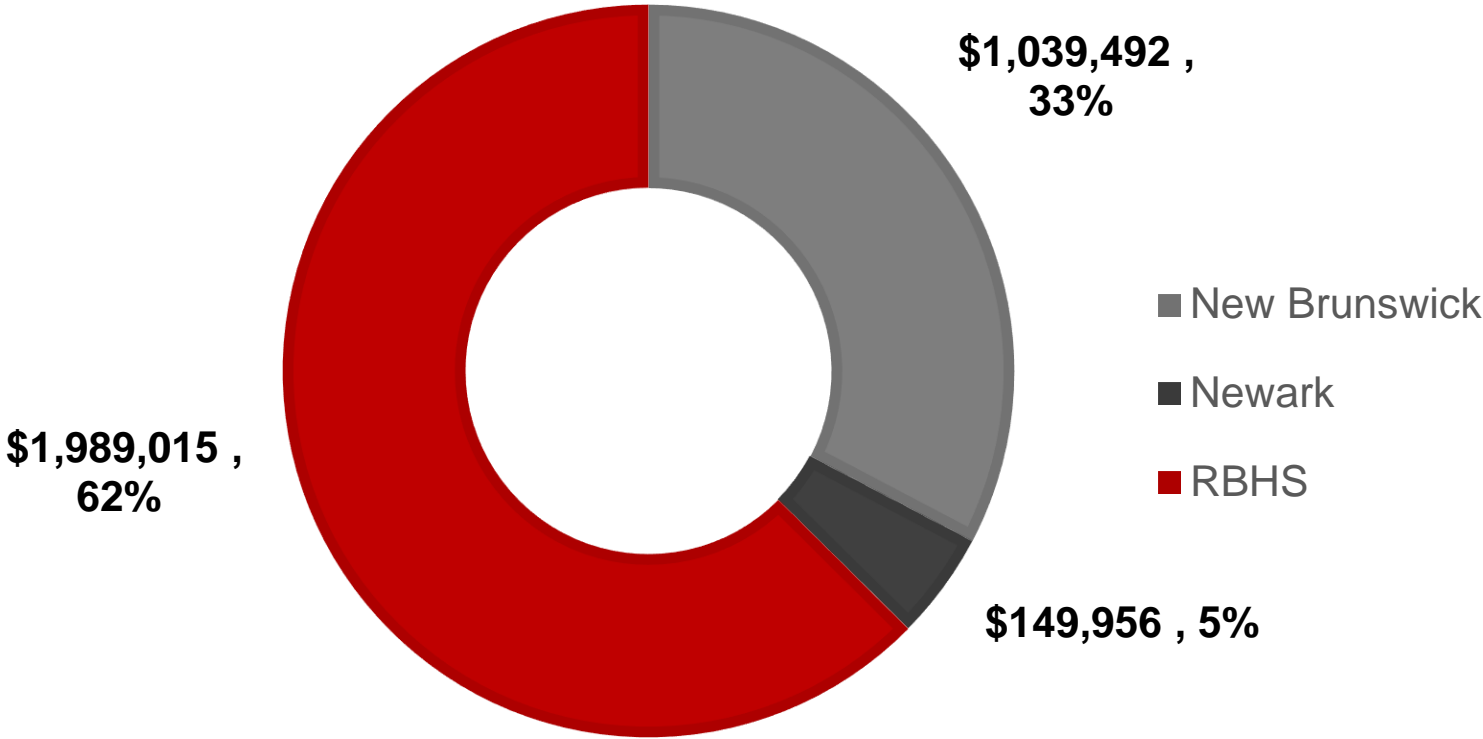
HealthAdvance & TechAdvance Create Follow-On Funding

TechAdvance Awards



TechAdvance Numbers Since 2017	
Funding Rate	~80%
Total Funding Disbursed	> \$ 4.9 M
Follow-on Funding	~ \$17.4 M

HealthAdvance Awards



HealthAdvance Numbers Since 2020	
Funding Rate	~53%
Total Funding Disbursed	> \$ 3.6 M
Follow-on Funding	~ \$ 11.1 M

* Includes 1 NIH RADx-Rad Award

Technology Transfer Trainee Program

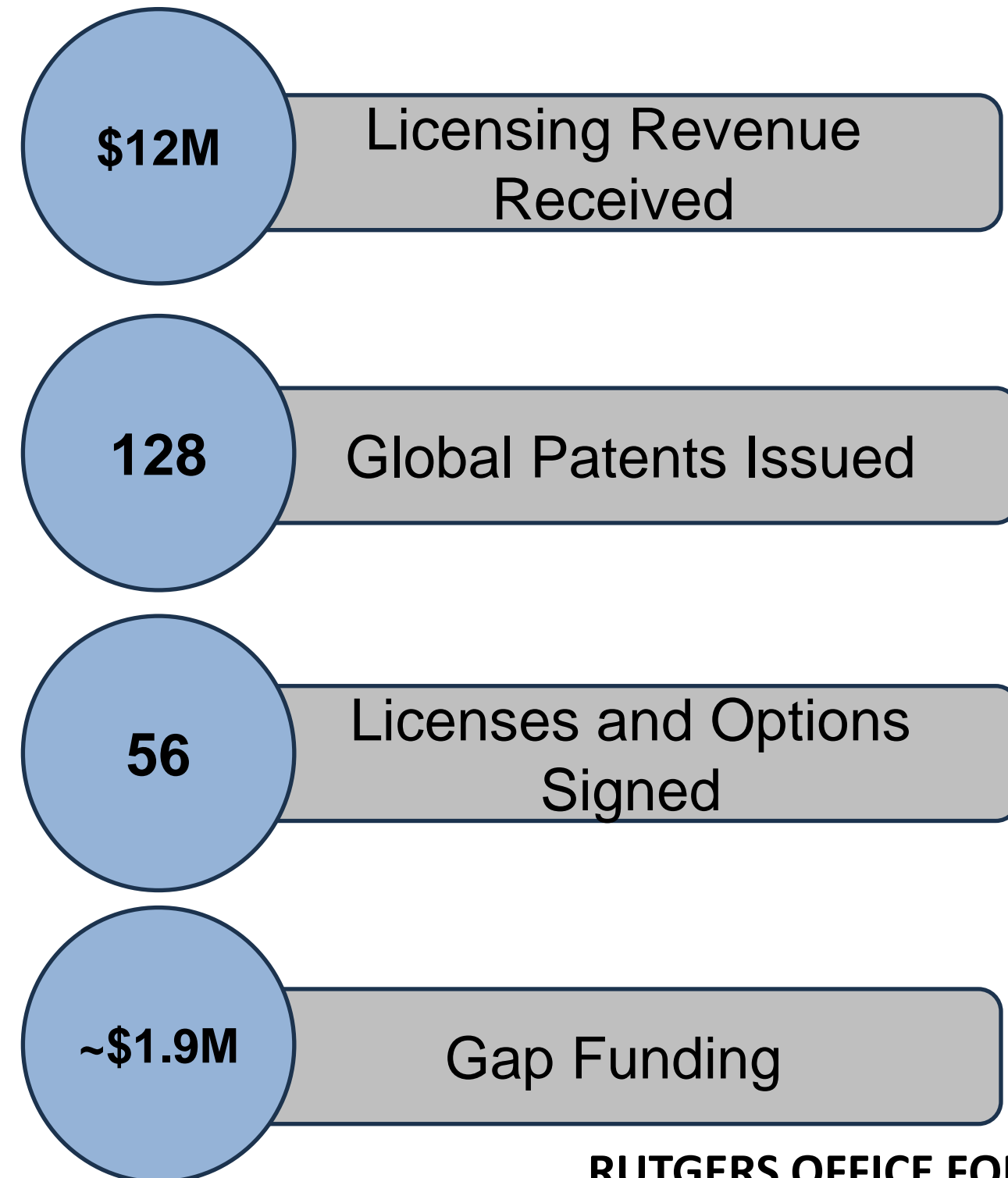
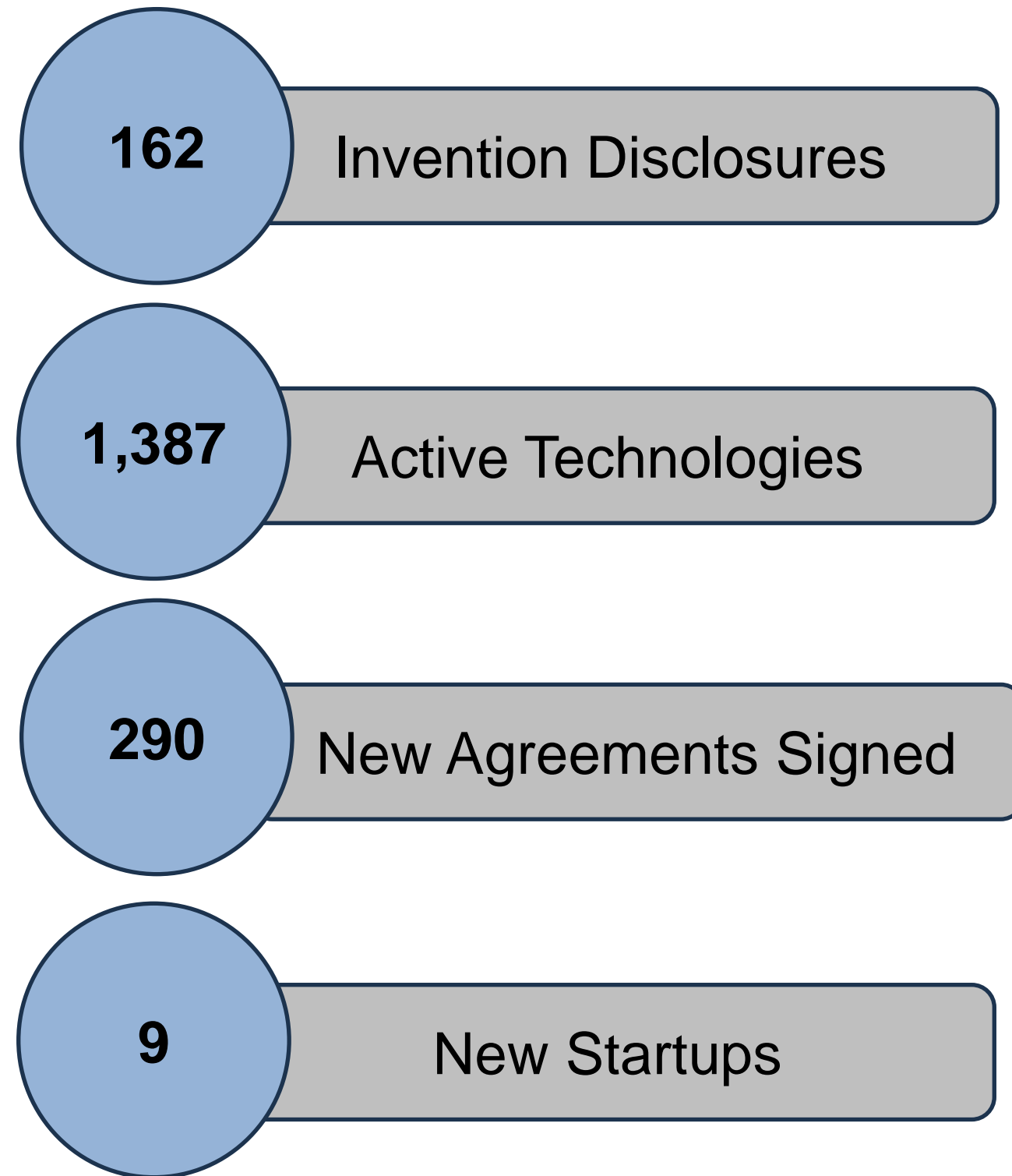
150+

Interns, Fellows and Trainees
Trained Since 2009

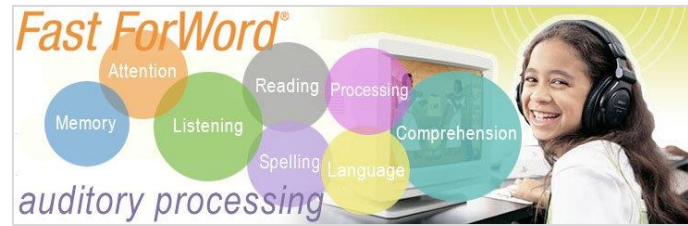
Interns, Trainees, and Fellows Learn:

- How to protect and commercialize the results of scientific research.
- How to evaluate an Invention Disclosure, prepare Non-Confidential Summaries, and identify and reach out to prospective licensees.
- Business terms of various agreements that govern Technology Transfer in an academic university.

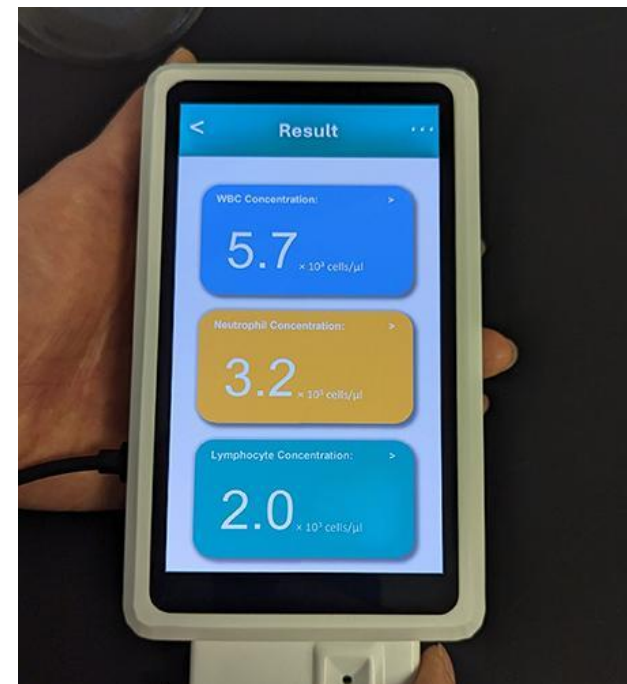
Fiscal Year 2024 Outcomes



Successes



**Estée Lauder -
Moringa
anti- inflammatory,
anti-aging skin cream**



**Cytotracker
Leuketometer -
Handheld white
blood cell tracker**



**Axion – 100 % recycled
plastic railroad ties**



**Medtronic – absorbable
antibacterial envelope for
implantable devices**



Disease resistant basil plants.

National Academy of Inventors Fellows

Fred Kramer
Patrick Sinko

Edison Patent Award Winners

Charles Dismukes
Martha Greenblatt
Andres Laursen
Karin Calvinho
Abraham Pinter
Alok Choudhary

Questions

Thank you for Joining Us!



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research.rutgers.edu