



# REINVENTING RESEARCH COMMERCIALIZATION

*A WORKSHOP  
SAINT LOUIS UNIVERSITY  
SEPTEMBER 8, 2017*

**CREATING THE NEXT®**

And this is a time when broadly supported university research has never been

more important for:

- Solving the challenges of our world
- The competitiveness of U.S. industry
- The economic vitality of each university's region
- Developing the globally competent citizens and entrepreneurs our students will become

## Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies (June 22, 2017)

SENATOR LAMAR ALEXANDER: “THERE IS VERY LITTLE THAT IS HAPPENED IN TECHNOLOGICAL CHANGE IN OUR COUNTRY SINCE WORLD WAR II THAT IS NOT HAD GOVERNMENT RESEARCH AS PART OF IT. WE ARE LEADING THE WORLD IN BIOMEDICAL RESEARCH AND WE WANT TO ACCELERATE THAT.”

SEN. ALEXANDER: “...\$28 BILLION GOES THROUGH [NIH] TO UNIVERSITIES FOR RESEARCH. IS IT TRUE THAT AROUND THESE UNIVERSITIES LIKE STANFORD, UNIVERSITY OF OKLAHOMA, KANSAS AND TENNESSEE, GROW COMPLEXES OF INDUSTRIES ATTRACTED BY THE RESEARCH AND WHO AS A RESULT, CREATE JOBS AROUND THESE CENTERS OF RESEARCH?”

FRANCIS S COLLINS, M.D.: “THAT IS ABSOLUTELY TRUE. IF YOU LOOK AT THE GEOGRAPHY OF WHERE THOSE PLACES HAVE SPRUNG UP, IT IS VERY MUCH ATTACHED OFTEN TIMES TO A UNIVERSITY THAT IS A GENERATOR OF INTERESTING IDEAS AND VISIONARY SCIENTISTS.”



# REINVENTING AND REDISCOVERING RESEARCH COMMERCIALIZATION



Advance promising research more effectively through proof of concept

Promote more active faculty entrepreneurship and student innovation

Find new and simpler ways to bring research results to market

Collaborate more productively with industry partners

Form and provide early support for dynamic startups

# REINVENTING AND REDISCOVERING RESEARCH COMMERCIALIZATION



## *Familiar and Important Themes for All Research Universities*



### INDUSTRY COLLABORATION

Your business is unique. Knowing that, Georgia Tech will tailor a corporate partnership to meet your specific needs and expectations.

Collaborating with a research university has never been easier. First, we listen. Then we focus on your short and long term goals. This allows us to connect your company with the right Georgia Tech expertise and resources — every time.

**We are responsive. We are connected. We are here to help your company...**

» ENGAGE AND RECRUIT TOP STUDENTS

» ACCESS RESEARCH AND DEVELOPMENT

» TAP INTO A STARTUP

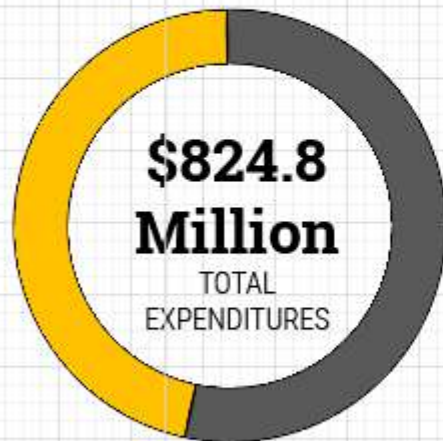
» ESTABLISH AN INNOVATION CENTER

» LICENSE OUR TECHNOLOGIES

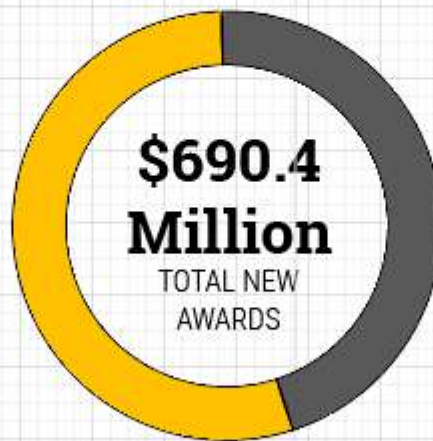
» DEVELOP YOUR WORKFORCE

# Fiscal Year 2017: At A Glance

## GTRI & Resident Instruction



**GTRI**  
Exp.: \$383.1 M (46%)  
Awards: \$377.0 M (55%)



**Resident Instruction**  
Exp.: \$441.7 M (54%)  
Awards: \$313.4 M (45%)

### New Awards: Sources

**73%**

**Federal Awards**  
\$504.2 M

**14%**

**Industry Awards**  
\$98 M

## FY2017: Impact at a Glance

274

**Inventions Disclosed**  
by Georgia Tech  
researchers

21

**License / Options**  
completed for Georgia  
Tech innovations to  
outside partners  
(non-software)

62

**U.S. Patents Issued**  
for Georgia Tech  
innovations

8

**Start Ups**  
licensed Intellectual  
Property created by  
researchers at  
Georgia Tech.

\*Start up company added new  
Intellectual Property to existing  
relationship in FY2017.

CellectCell, Inc.\*  
Clearside Biomedical, Inc.\*  
FraudScope, Inc.  
MoQuality, Inc.  
PanXome, LLC  
Sanguina, LLC  
Sila Nanotechnologies  
Varentec, Inc.





# REINVENTING AND REDISCOVERING RESEARCH COMMERCIALIZATION



The image shows a screenshot of a web browser displaying the Georgia Tech Innovation Ecosystem website. The browser's address bar shows the URL [www.gatech.edu/innovation-ecosystem](http://www.gatech.edu/innovation-ecosystem). The page features a large background image of two people, a woman with pink hair and a man, sitting on a bench in a laboratory setting, looking at a tablet. The page is overlaid with a semi-transparent dark blue box containing the following text:

## Innovation Ecosystem

### Supporting Innovative Ideas and Entrepreneurship

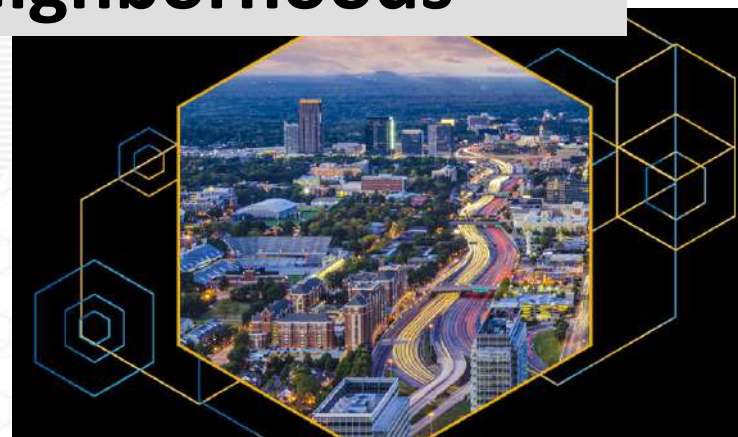
Georgia Tech plays a major role in the large network of established companies, startups, universities, and public and private organizations that work together to spur innovation, develop new technologies, and expand job opportunities.

At the bottom of the page, there is a navigation bar with six buttons: "Innovation Ecosystem Overview" (highlighted in yellow), "Technology Square and Beyond", "Industry and Government Collaborators", "Faculty and Researchers", "Entrepreneurs and Startups", and "Students and Learners".

Contract Continuum

At Georgia Tech, investing in research is a top priority. As part of that commitment, the university has developed four contract mechanisms that enable industry to engage with Georgia Tech. These mechanisms are fully crafted to meet industry property terms for research and development. The mechanisms are as follows:

1. Entrepreneurship Education
2. Industry Research Engagement
3. Licensing & New Ventures
4. Innovation Neighborhoods



## Entrepreneurship Education

**Inventor**

**Students**

**NSF I-  
Corps**

**Inventure  
Prize**

2/3 of  
inventions  
name 1 or  
more  
students

**VentureLab  
&  
Incubator  
(ATDC)**

**FlashPoint**

**CreateX**

**The IP  
University**

**GT:IPS™**

**Start-up  
Summer**

Companies  
look for IP  
competency  
in recruits

# Research Engagement with Industry

New “Industry-friendly” Intellectual Property Models for Research Contracts



Option	Georgia Tech	Iowa State	NC State	Penn State	Purdue	Michigan	Minnesota	Oregon
basic research	x	x	x	x	x	x	x	x
applied research	x	x	x	x	x	x	x	x
university background IP eligible	x	x	x	x	x	x	x	x
industry background IP eligible	x	x	x		x	x		x
assignment of foreground IP	x	x		x	x	x		x
exclusive reights to forground IP	x	x	x		x	x	x	x
upfront paid foreground IP license	x	x	x		x	x	x	x
foreground IP royalties	x	x	x				x	x
bonanza clause		x	x	x			x	
post-development license	x	x	x					x

<https://www.uidp.org/>



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# Industry University Research Engagement

## GEORGIA TECH INDUSTRY CONTRACT CONTINUUM

### Basic Research

Explore fundamental challenges in a technical area.

As one of the nation's top research universities, Georgia Tech is committed to conducting basic research that advances our fundamental understanding of the world. This form of research is typically driven by scientific questions that lay the foundation for technological progress.

When Georgia Tech collaborates with industry via a **Basic Research** agreement, the industry partner has the opportunity to license the resulting intellectual property (IP). These early collaborations are often the foundation for new products that spur business growth for a company.

### Applied Research

Identify solutions to real-world challenges.

The **Applied Research** agreement enables Georgia Tech researchers to help industry partners explore the viability of a technology and overcome practical challenges.

Under an **Applied Research** agreement, the company pays a defined fee to gain access to IP that is generated during the project. The company obtains rights for exclusive access to the IP for a specified period of time within a defined field of use. This enables industry partners to develop and launch a product with very low risk, gaining a first-mover advantage. After the exclusivity period is over, the company can 1) extend the exclusive rights or 2) convert to a non-exclusive license.

### Demonstration

Improve an existing technology.

For industry partners working on product development, the **Demonstration** agreement enables Georgia Tech researchers to help a company improve existing technology.

The **Demonstration** agreement offers a straightforward and advantageous intellectual property policy for industry partners. Simply put, when a company introduces background IP under a **Demonstration** project, the company shall have exclusive rights to any improvements at no additional cost. For companies that have licensed a Georgia Tech innovation, any improvements to the licensed IP shall be incorporated into the terms and conditions of the original licensing agreement.

### Specialized Testing

Test new and existing products.

Georgia Tech offers expertise and state-of-the-art equipment that can be leveraged in the final stages of development to test products and help a company ensure that they are market-ready. The **Specialized Testing** agreement provides a cost-effective and secure way for companies to access this equipment without making a large capital investment. This work is often instrumental in enabling a successful product launch.

The **Specialized Testing** agreement also offers a straightforward intellectual property policy for industry partners. The sponsoring company will own all test results.



<http://industry.gatech.edu/contract-continuum-industry>

# Licensing & New Ventures

## *Technology Maturation*

Invention Disclosure

Prototype

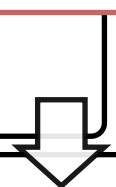
Development

Programs  
Such As  
I-Corps

Market Discovery

Commercialization Path

Funding for  
Development  
Inside the  
University



## Technology Transfer

Licensing

New  
Venture  
Formation

## Technology Maturation

Translational  
Research

Transition to  
Licensable  
Technology

## Entrepreneurship Education

Inventors

Students

# Growing New Ventures

**atdc**  
GEORGIA TECH



Georgia  
Research  
Alliance



# ENGAGE



**Project Engage**  
Georgia Tech's Tech Square will be home to a new accelerator and venture fund called Engage.

<http://www.news.gatech.edu/2017/01/12/new-way-engage-startups>

## Research Neighborhoods



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