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Bridging the Gap Between Academia and Industry

Inventor's Guide to Technology Transfer

Innovation Gateway
Pharmacy South Building, Room 201
September 12, 2018, 1:30pm

You're invited…Seminar 2

Bridging the Gap Between Academia and Industry

Case Study: Products vs. Discoveries

Mike Fisher, Director of Product Development
Global Center for Medical Innovation

Pharmacy South Building, Room 201
November 7, 2018, 1:30pm

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Innovation Gateway Mission

Innovation Gateway maximizes the impact of UGA research discoveries and fosters economic development through industry partnerships and new venture information.

- Intellectual property protection and licensing
- Startup support
- Streamlines the path from the laboratory to the marketplace
- Ensures that UGA discoveries reach their full potential for public benefit

Building a Front Door for Innovation

- A **“one-stop” shop** to match UGA resources with industry needs
- A **cohesive, multi-faceted** approach
- **Efficient translation** of discoveries into new products and companies
- The **right pathway** for each invention
- **Strategic partnerships**

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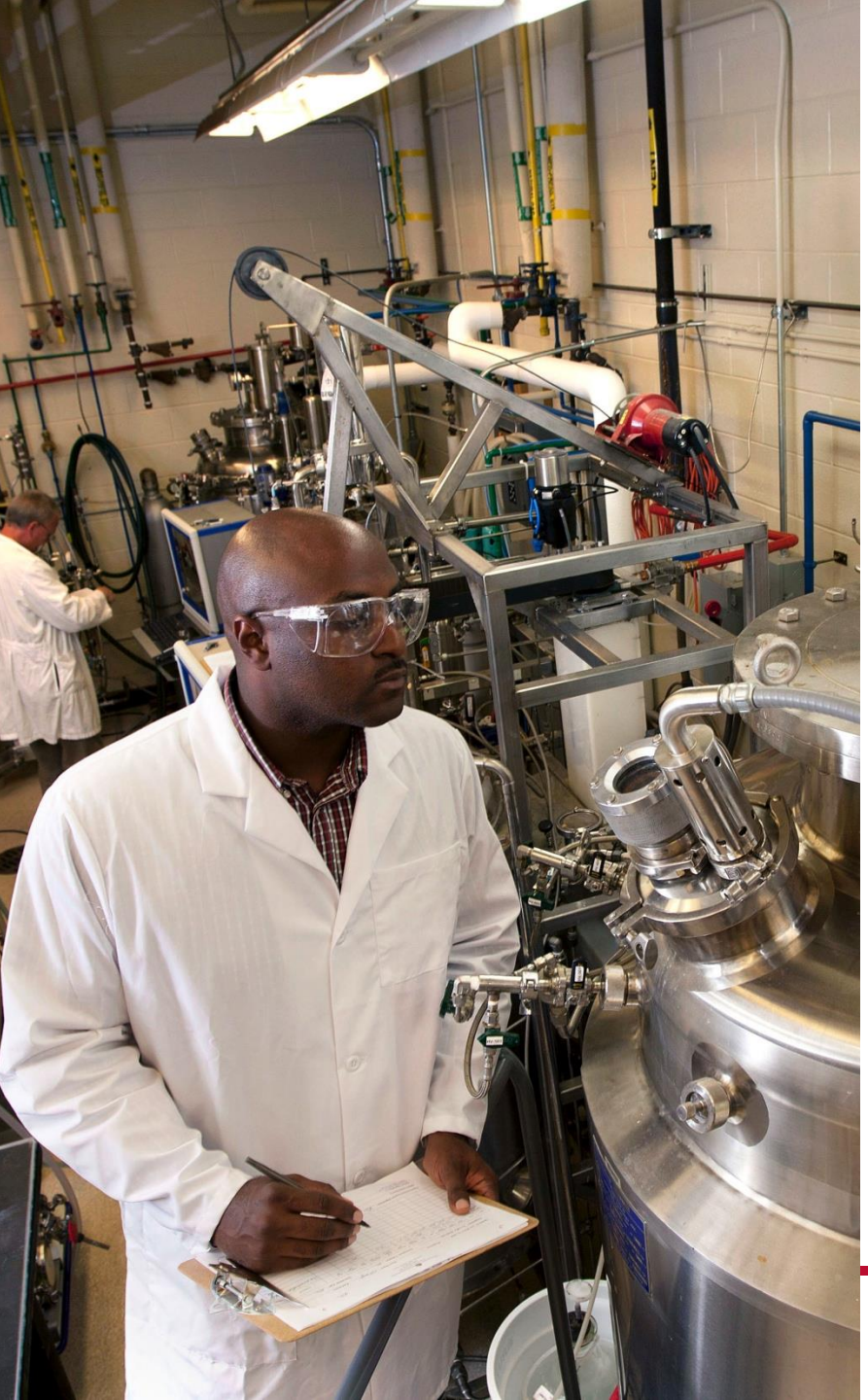

Outline

- Tech Transfer 101
- Nuts & Bolts: how to disclose an invention
- Entrepreneurship and start-ups

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Tech Transfer 101

- Technology transfer is the transfer of information and discoveries to the public
- Formal licensing of university inventions to third parties for commercial use

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Why should I participate in technology transfer?

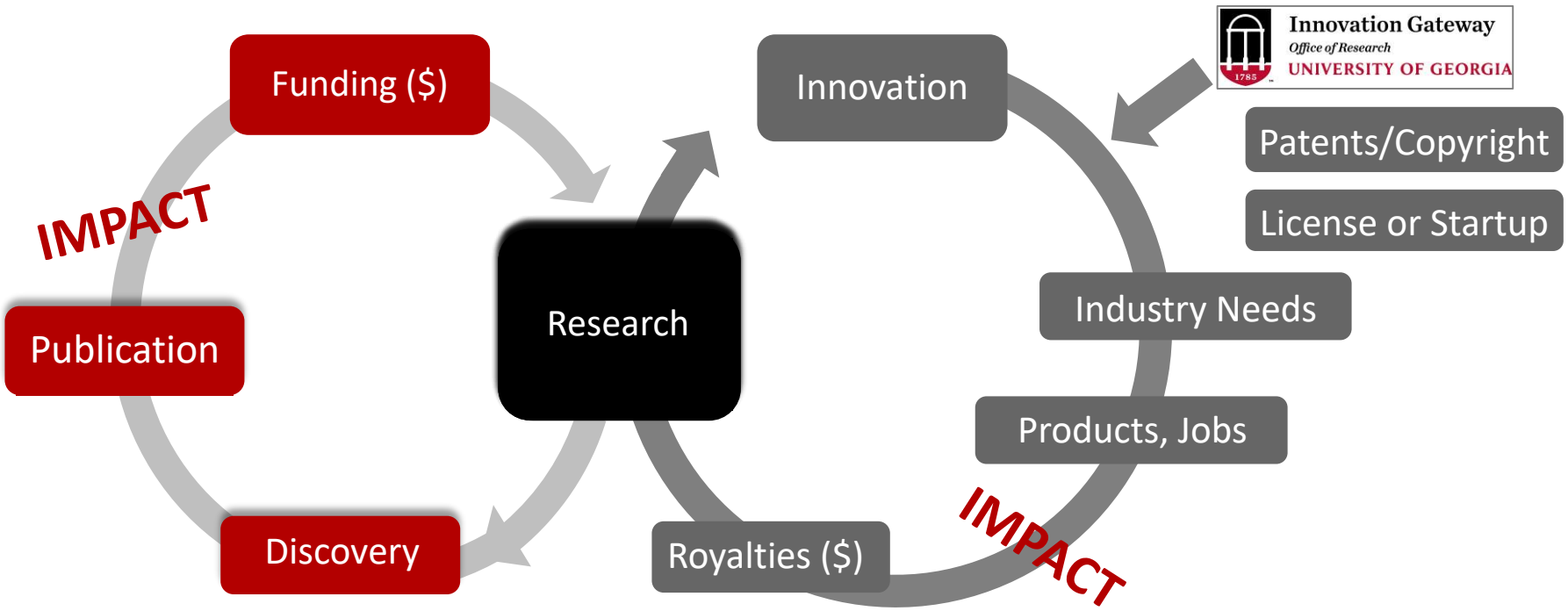
- Benefiting society
- Attracting research sponsors
- Gaining personal fulfillment
- Achieving recognition and financial rewards
- Creating educational opportunities for students
- Generating additional funding

But can't I just publish so it is "free"?

- Yes you can!

- It is unlikely that a company will expend resources to develop a technology for which they do not have exclusivity
- Making it "free" risks that it will never be commercialized

Aligning Research Impact Cycles



Discovery vs. Invention

- A *discovery* is recognizing something that already exists for the first time, that no one has found before
- An *invention* is creating something totally new with one's own ideas and development
- For an invention to be patentable, it must be novel, unobvious and useful

What is intellectual property?

Creations of the mind that may be protected under patent, trademark, trade secret or copyright law. Under IP law, owners are granted certain exclusive rights to their IP

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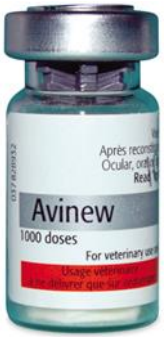
Examples of UGA Intellectual Property



PEANUTS
Georgia-06G

TifEagle
For Greens

TIFTUF
CERTIFIED BERMUDAGRASS

SeaStar
Certified Paspalum from Tee to Green

HATCH PAK
COCCI III

Bayh-Dole Act

- Passed in 1980
- Gives universities rights and to commercialize inventions made with federal funds
- Title to inventions belongs to university rather than feds
- Compliance obligations must be met or the invention returned to feds

UGA IP Policy

- University owns IP generated by an employee if the IP was generated through significant use of university resources
- For IP developed under a sponsored research agreement, the specific terms of the agreement will control IP ownership rights
- Disclosure is not required for scholarly works
- Student's work not included as long as it is scholarly work
- If UGARF declines to administer IP then it may be assigned back to inventor

Are Innovation Gateway and UGARF the same?

Innovation Gateway is a part of the University of Georgia Research Foundation, Inc., as well as the Office of Research at UGA

UGARF is:

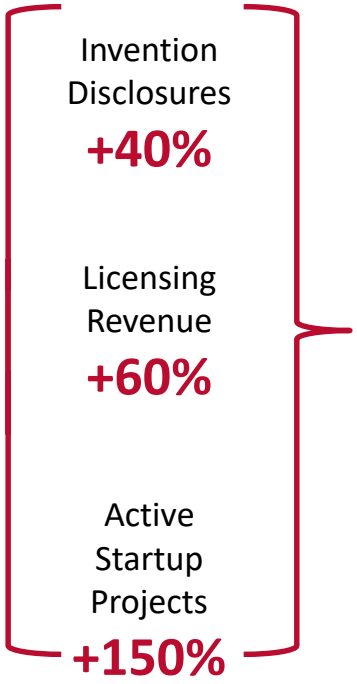
- Private, nonprofit 501(c)3 organization
- Entity through which funding is awarded; UGARF subcontracts research awards to UGA
- Assignee of all intellectual property rights in inventions developed by UGA employees
- Legal entity that enters into commercial license agreements with industry

How is technology actually "transferred"?

- License agreement
- IP rights transferred to third party under defined fields, territories and terms
- Can be an established or start-up company
- Tangible materials, copyright and know-how can be transferred
- Licensee must meet diligence obligations

Innovation Gateway Impact

Since 2015



Increased impact of innovation, licensing and startup program

- 30+ new startup companies
- 200+ new jobs created
- 140+ new products on the market
- $1M in new grants to expand resources

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UGA Research → Economic Impact

Moving inventions from lab to marketplace

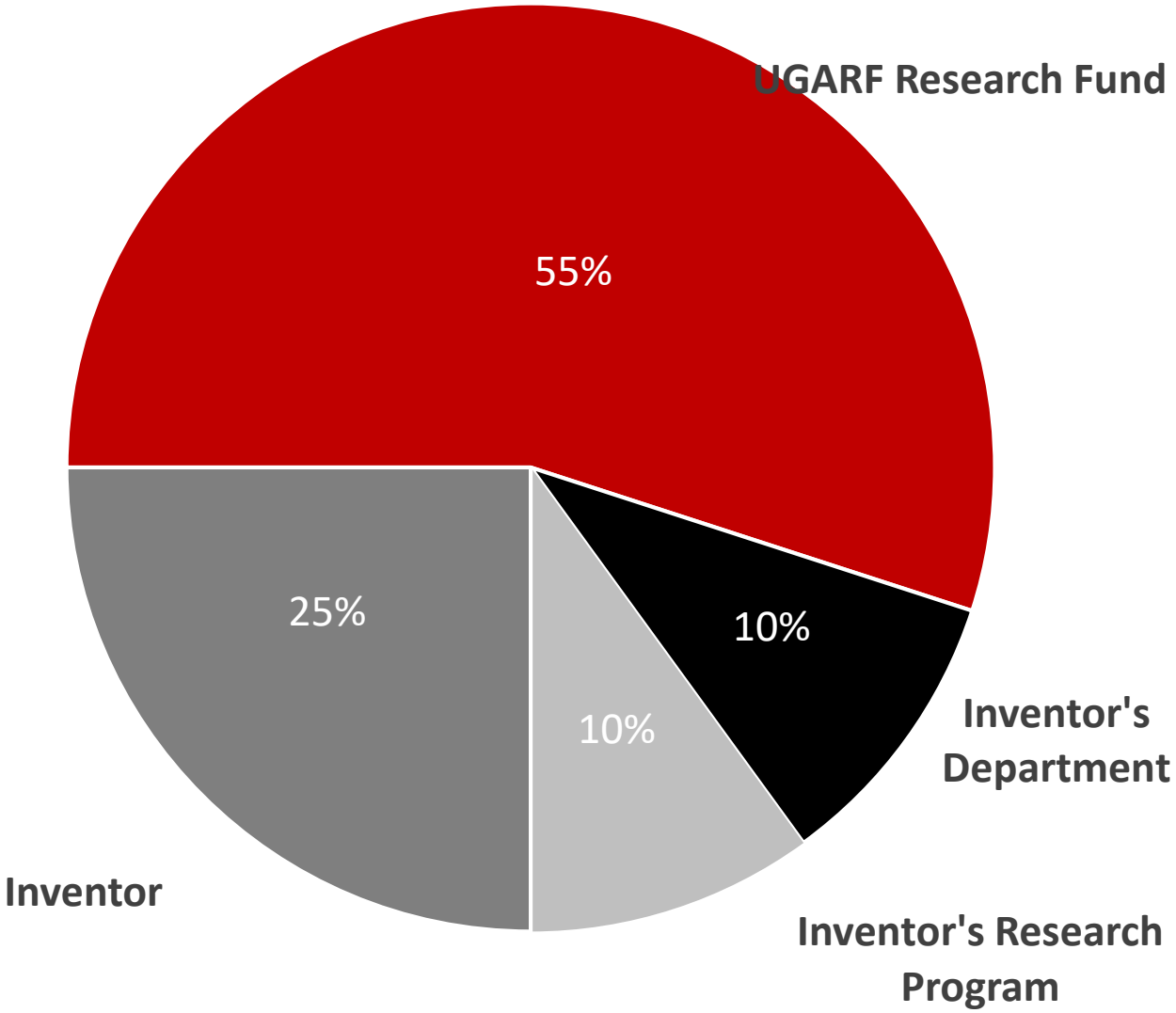
675+

Products on the market

160+

Startup companies

Licensing Revenue Distribution



Nuts & Bolts

- How to disclose an invention

When should I contact Innovation Gateway?

Short answer:

Whenever you have a question about a potential discovery!

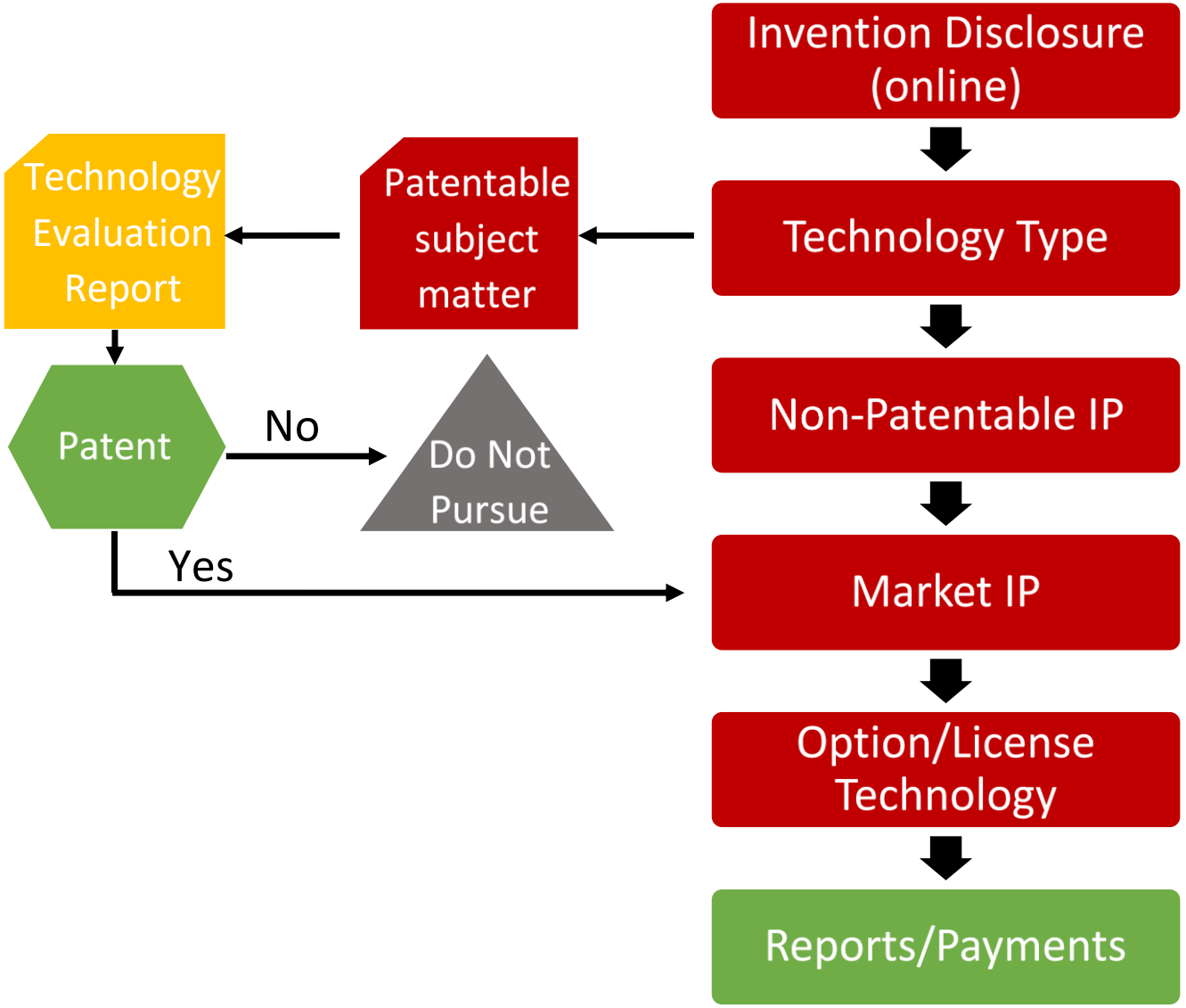
When should I contact Innovation Gateway?

- Before presenting invention in a public setting
  - Seminars in which individuals outside UGA are invited
  - Poster or talk at a meeting
  - Journal publication
  - Website
- When the inventive concept can be fully and precisely described
- Helpful to have proof-of-concept data demonstrating that your invention works

Online Disclosure Portal

- Disclosure instructions on website
  - https://research.uga.edu/gateway/
- Answer questions:
  - Description
  - Inventors
  - Funding source(s)
  - Related agreements (MTA, CDA, etc.)
  - Potential licensees
  - Public disclosures
- Upload files

Steps in the Intellectual Property Management Process



How long does this take?

- It depends…
- Patent: territory and subject specific
- License: It may take months to years to find the right commercialization partner
- Depends on:
  - Developmental stage of technology
  - Market for the technology
  - Competing technologies
  - Amount of work required to bring a new concept to market-ready status
  - Resources and willingness of licensees and inventors

FAQ

- Can I publish the results of my research?
- Can I still collaborate or share material with others?
- How much does this cost my lab?
- What rights does a research sponsor have to discoveries associated with my work?
- Who is an inventor?

Why would I start a company around my invention?….

A Common Issue

- Successful lab work produces an interesting technology
- Many possible uses, such potential
- No real interest from Industry

- So what is the cause?

My first startup in 1997

- Successful lab work produced a technology
- Wrote a business plan
- Raised money (lots)
- Executed on the business plan
- Sold the company
- Counted the money
- **No product on market 20 years later**

Technology Readiness Levels

- TRL 0: Idea
- TRL 1: Basic research
- TRL 2: Technology formulation
- TRL 3: Applied research – proof of concept
- TRL 4: Small scale prototype
- TRL 5: Large scale prototype
- TRL 6: Prototype system – commercial feasibility
- TRL 7: Demonstration system
- TRL 8: First of a kind commercial system
- TRL 9: Full commercial application

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Innovation Gateway Incubator

- Provides services to startup and early stage companies
- Must have established research relationships with UGA researchers or technologies

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Business Plan meets Customers

You will fail if you make something nobody cares about

Two Quotes

- ‘Everyone has a plan until they get punched in the face’
- ‘Not everyone you fight is your enemy, and not everyone who helps you is your friend.’

Launching Successful Startup Companies

GENERATE	EVALUATE	DEVELOP	SCALE UP
Cultivate new startup opportunities	Define challenges & identify critical path	Leverage services, seed funding & space	Support sustainable growth

- **Education**
- **Coaching/Mentoring**
- **Access to funding**
  - GRA Ventures grants (~$400K/year)
  - SBIR grants (~$3-4M/year)
- **Incubator space**
- **Advisory Board**

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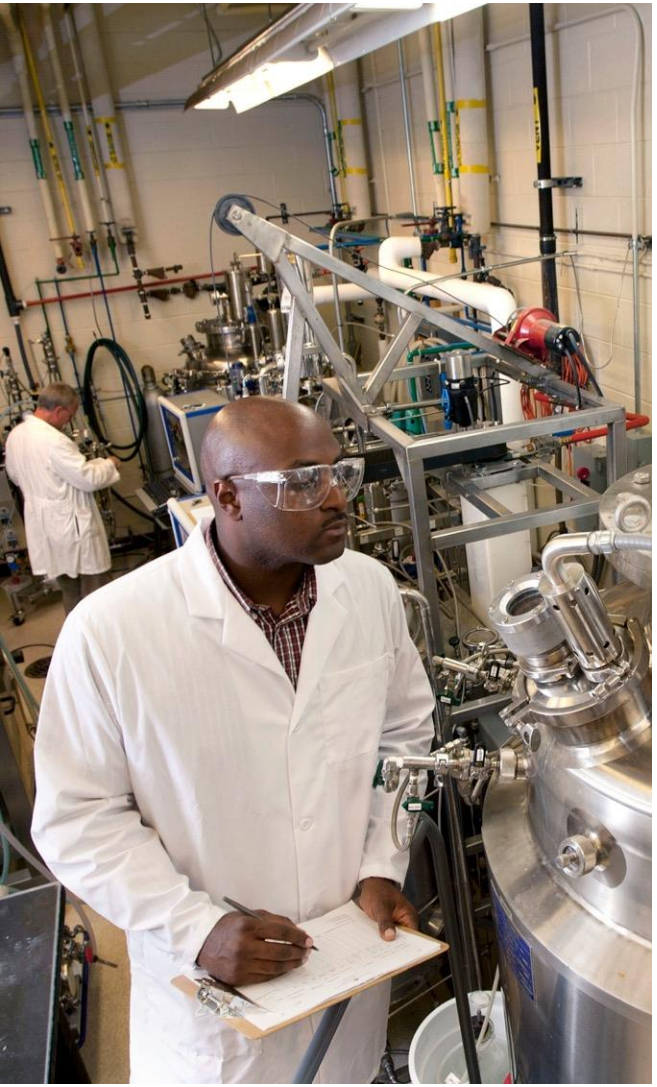
What is the I-Corp Accelerator Program?

- UGA was designated as an I-Corps site by a 2017 NSF grant
- Helps identify ugly babies
- Provides resources for the transition of technologies to products that the market needs.
- An intensive program to help teams identify customers and their needs



Early-Stage Funding Sources

- **NSF I-Corps**
  - I-Corps program - $3K
- **Georgia Research Alliance** *(GRA-State of Georgia)*
  - Phase 1 - $50K in $25K tranches
  - Phase 2 - $200K with match
  - Phase 3 - $250K loan
- **SBIR/STTR** *(U.S. Federal Grant Program)*
  - Phase 1 - $200K
  - Phase 2 – $1 million

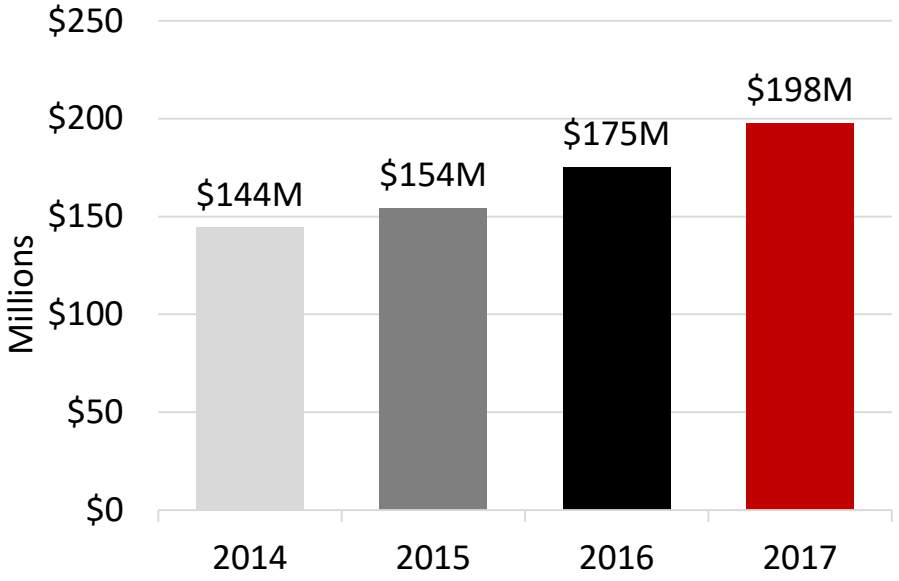
What is the Georgia Research Alliance?

- Non-profit organization partnered with the university system of Georgia and Georgia's Department of Economic Development that aims to stimulate economic growth within Georgia's biotechnology and life technology sectors
- GRA ventures is GRA's commercialization arm that provides expertise to establish clear pathways from innovation to marketplace

Conflict of Interest Concerns

- COI arises when an employee has a significant financial interest (SFI) that could directly affect decision making in their university research
- All employees must disclose SFIs
- Must keep university and company research separate
- Students and post-doctoral fellows should not be involved in research which may have publication restrictions

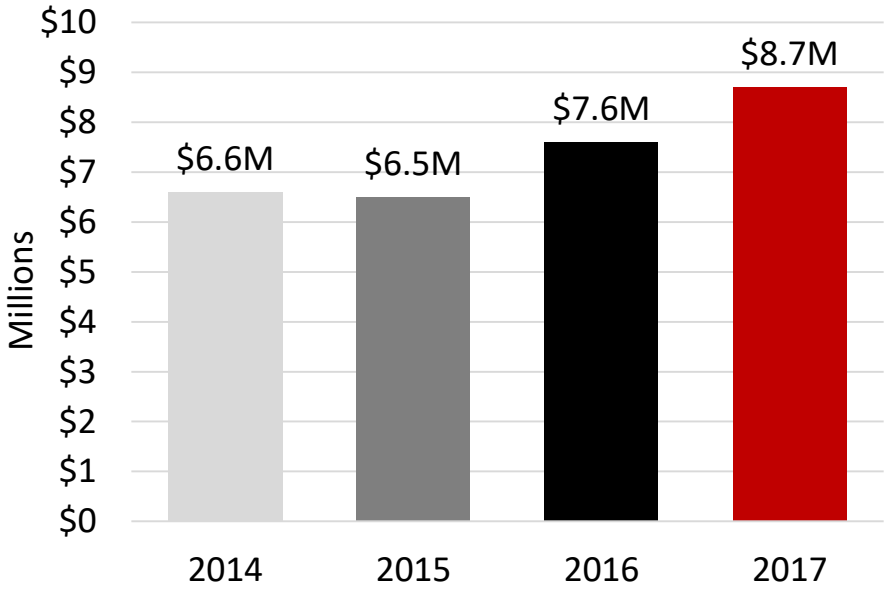
Positive research momentum



Sponsored Research Expenditures

License Revenue

FY2018 $10.5M



Highly Ranked Program

Top 5

Among all U.S. universities for new products reaching the marketplace:

4th consecutive year

Top 10

Among all U.S. universities for deal flow (licenses/options):

10th consecutive year

Top 20

Among U.S. public universities for total active startup companies:

14th consecutive year

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Data compiled by the Association of University Technology Managers (AUTM)

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