

Advancing and Translating Research

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Georgia Research Alliance

GRA: A unique public-private partnership of research universities, industry and government



What does university research give us?

A foundation for **major advances** – in medicine, energy, agriculture, national security, more

A way to **prepare students** to become a workforce of innovators

A mechanism that generates **major economic activity** (research grants, skilled workers)

A pipeline of discoveries, inventions that launch **new companies** / create jobs

= Reputation for Georgia



WHAT WE DO:

Propel new kinds of growth for Georgia's economy

HOW WE DO IT:



1. Expand research capacity at universities



2. Seed and shape new companies around inventions, discoveries



3. Accelerate growth of the best start-ups





#1: Expand research capacity at universities

"Share" of Federal Research \$ to States

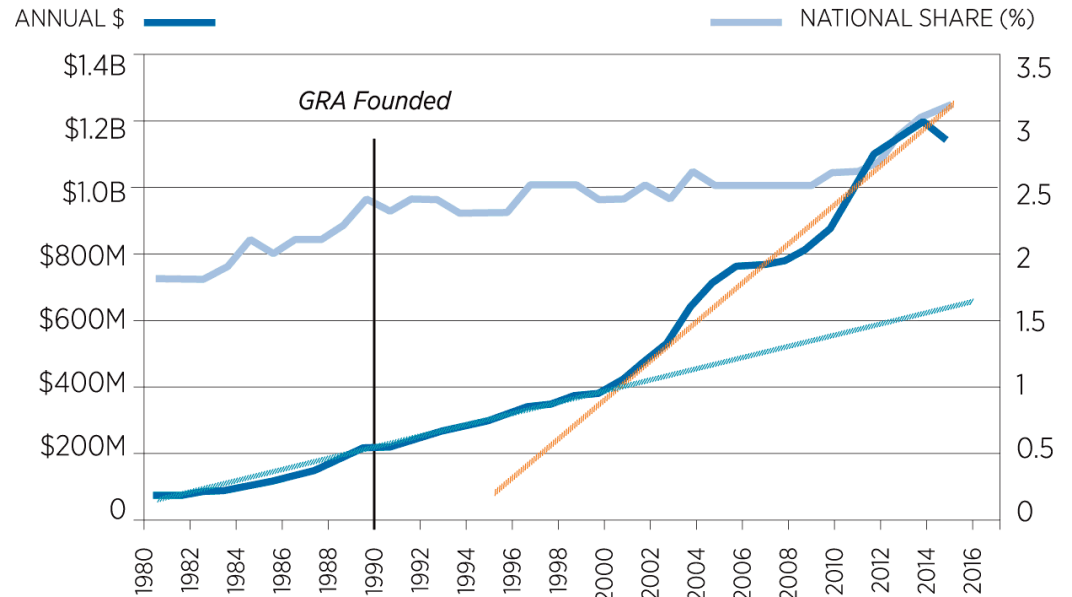
| | |
|--------------|-------------|
| ↓ CA — 12.4% | ↔ OH — 3.4% |
| ↔ NY — 8.0% | ↑ MI — 3.1% |
| ↑ MD — 7.5% | ↑ GA — 3.0% |
| ↑ PA — 5.9% | ↑ FL — 2.9% |
| ↑ MA — 5.7% | ↑ WA — 2.8% |
| ↓ TX — 5.4% | ↔ CO — 2.4% |
| ↑ NC — 4.3% | ↔ VA — 2.0% |
| ↓ IL — 3.6% | ↓ WI — 1.8% |

↑
TRENDING
UPWARD

↓
TRENDING
DOWNWARD

↔
HOLDING
STEADY

Federal R & D Expenditures at Georgia Universities





Expanding capacity: investing in research leadership

GRA Academy of Eminent Scholars (est. 1990, 67 members)

- average **h-index of 50** (**45** for Nat'l Academy members)
- Last 5 years: **193** patents, **270** provisional patents and copyrights
- Over **\$525 million** / year in research grants to Georgia

Georgia's University Research Enterprise

- **\$2 billion** / year in research universities (**12th** in the U.S.)
- **20% growth** since 2012 (**5th** in U.S., **1st** in South)





#2: Seeding and shaping new companies

- **Venture Development:** create sustainable companies based on inventions from university labs (since 2003)
- **180** new companies, **1,500** high-value jobs
- **>\$1 Billion** in outside venture capital



CleanHands
SAFE H A N D S



Velocity

REACHHealth
The Telemedicine Software Company





#3: Accelerating growth of the best start-ups

- **GRA Venture Fund, LLC** (est. 2009)
- **14** companies to date, **600+** employees
- **\$473 million** in outside venture capital invested raised by companies



GRA's venture development process

- James Lillard – MSM point person
- Begins with initial assessment of opportunity (IP, technical feasibility, market dynamics, regulatory issues, management needs, etc.)
- Relevant and measurable milestones
- Budget follows milestones
 - Phase I “Proof of concept” phase: \$25K - \$100K grant to university; “Does it make sense to form a company?”
 - Phase II “Prototype” phase: \$100K - \$200K grant to university. Requires 1:1 match for prototype manufacture, demonstration of utility in animal model, etc.
 - Phase III loan to company: typically \$250K for developing initial customers, recruiting management, initiating IND-enabling studies, etc.



Example – Axion BioSystems

- Developed/ commercialized research instruments to assess electroactive human cells, aka “Save the beagles”
- Technology invented at Georgia Tech

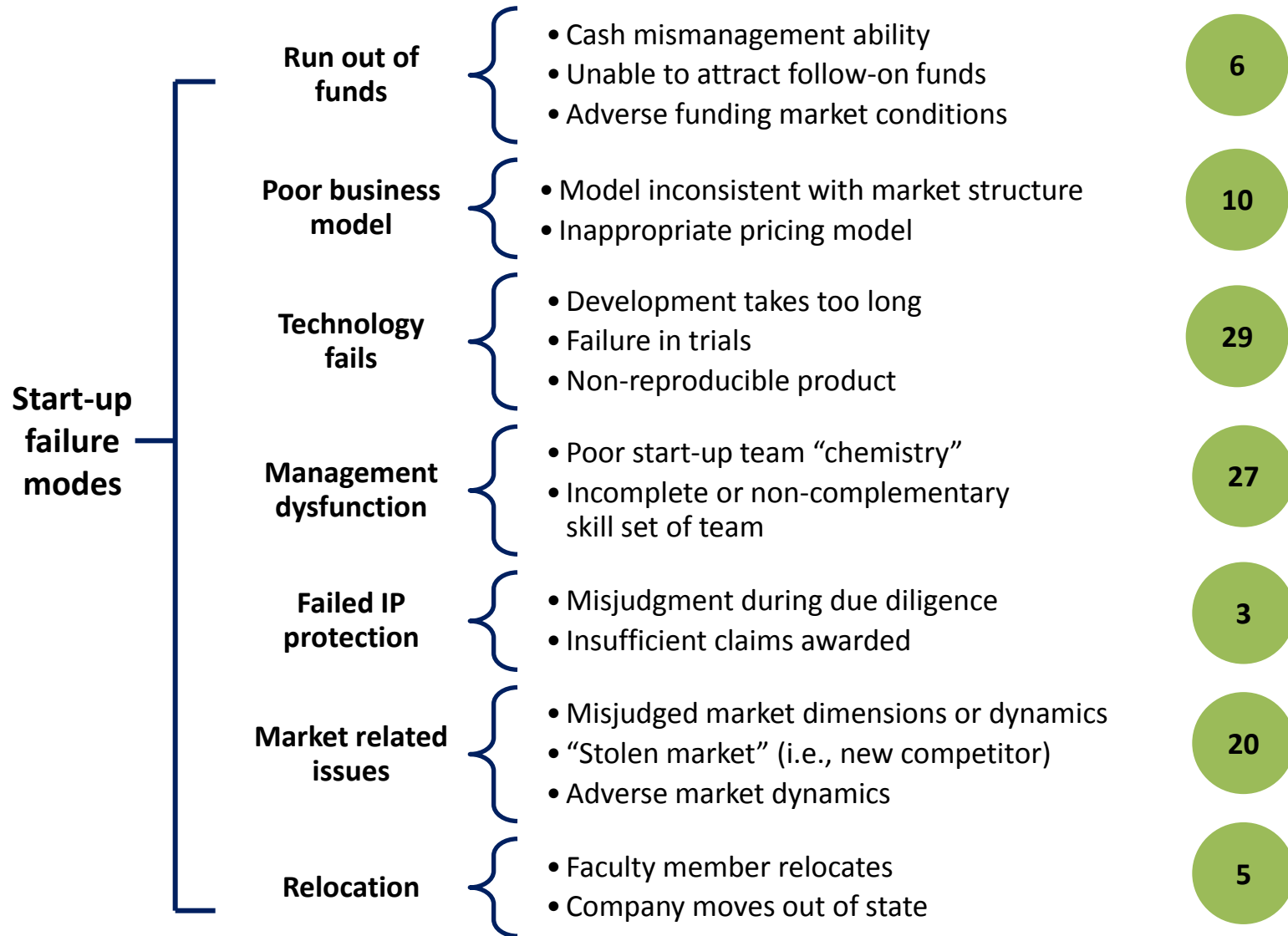
| Phase | Date | Amount |
|-------|----------------|-----------|
| IA | June 2007 | \$25,000 |
| IB | January 2008 | \$25,000 |
| IIA | June 2008 | \$50,000 |
| IIB | November 2008 | \$50,000 |
| IIIA | March 2009 | \$100,000 |
| IIIB | January 2010 | \$150,000 |
| IIIC | September 2014 | \$250,000 |

- \$6M investment in 2016 (including GRA Venture Fund LLC)



Lessons Learned

Percentage





GRA and Morehouse School of Medicine

Expanding research capacity

Recruit Eminent Scholar to lead the Satcher Health Institute (SHLI)

- Continue transformative work to advance global health equity
- Expand research collaborations with other GRA institutions





GRA and Morehouse School of Medicine

Venture development at MSM

- James Lillard
- 6 projects funded by GRA over time

NutriGlobal – new project in 2017

- Founded by Dr. Jacqui Hibbert
- Develop an affordable nutritional supplement for sickle cell anemia patients
- Phase I grant: work with UGA Food Center to address taste & texture issues, maximize shelf life

