

Communicating the Value and Impact of What We Do

AUTM Webinar

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The content is solely for purposes of discussion and illustration, and is not to be considered legal advice.

Who is John Fraser ?

- President of Burnside Development, a technology transfer consulting firm. Clients in Chile, China, WIPO – Geneva, Philippines, Serbia, USA.
- President, Chair of Board of AUTM (global association of technology transfer professionals) in 2006-2007. Visited 20 countries to promote academic technology transfer (Sister organizations: FLC, LES).
- Former Assistant Vice President of Research and Economic Development, and Executive Director of the Office of Commercialization Florida State University, Tallahassee, Florida 2014-1996.
- Founder/Head of 4 Academic Technology Transfer Offices:
 - 2 not-for-profit; 2 for-profit. 2 in USA; 2 in Canada.
 - 250+ licensing deals between universities and companies to develop research results into useful product (60 were spinoff companies).
- Shareholder/Founder of 3 start-up firms (sold 1, buried 2).
- Masters in Biochemistry – UC Berkeley – 1973.



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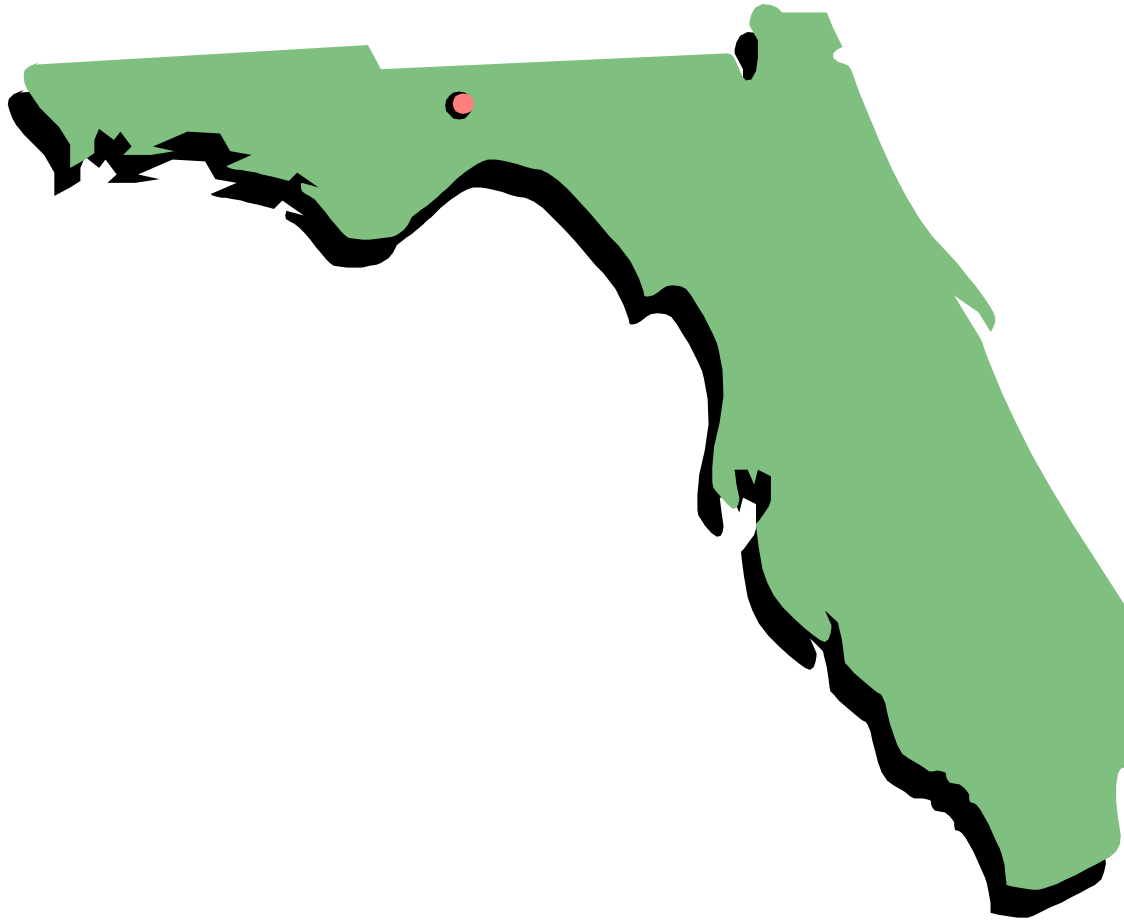




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Why is Communications Important ?

- You may think that you are doing a really good job in the Technology Transfer office and not advance in your career if you do not Communicate so that people understand what you are contributing.
- We can be working so hard in the grass that we do not see the trees.



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How - It is important to communicate about
'Progress to Goals' not simply Activities

- What does that mean?

Mission Statement – the Office Goals

I think this is a good goal statement for an Office.

To assist the University to achieve its Goals of education, research and community service, by growing University-Industry relationships particularly in the area of research collaborations in order to bring results of research and creative works to the benefit of Society in the form of new products and services which save lives, improve the quality of life and increase corporate competitiveness and productivity.

Lesson #1

One key communication issue with technical people (myself included) is that we tend to describe:

- what we do and how we do it, rather than
- what we do and why it might be of benefit to someone.

You need an Office Plan and Tools to Communicate

- The Office Plan – Strategy, Plan and Assessment (lots of material on the web, so I will not go into details, but usually include:
 - Inventory of Status quo;
 - Target audience – stakeholders;
 - Goals – measurables;
 - Initiatives/Action Plan;
 - Budget;
 - Evaluate effectiveness and Adjust.
- (Btw, you need a personal communications plan for yourself).

Types of Communication Plans

Purpose	Interaction	End Result
Educate	One way	Information accepted
Engage	Two ways	Increase in knowledge
Action oriented – Sell/Buy-In	Two ways	Action of mutual benefit



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WHAT to Communicate ?



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CONFIDENTIAL

Florida State University Office of Commercialization

C

FY 2015 Staff Meeting Update

11/5/2014

Tech Transfer Activity	previous year	
	FY 2015	FY 2014
Invention Disclosures	13	57
Work Disclosures	4	4
Patent Applications Filed	30	99
US Patents Issued	9	39
L/O Agreements (Done)	9	25
L/O Agreements (Pending)	14	

Revenue projections (Deals signed only)	FY 2015		FY 2014	
	Royalties (non-Taxol) ¹	\$ 1,121,960	\$ 1,841,136	
Grants ²	\$ 345,344	\$ 2,829,989		
SBIR/STTR ³		\$ 124,000		
Other ⁴	\$ 253,934	\$ 526,472		
Subtotal	\$ 1,721,238	\$ 5,321,597		

FSU Internal Investments	FY 2015		FY 2014	
	GAP I ⁵	\$ -	\$ 197,000	
GAP II ⁶	\$ -	\$ -		
Subtotal	\$ -	\$ 197,000		

	FY 2015		FY 2014	
	Number	Amount	Number	Amount
STTR/SBIR ⁷ Applications	6	\$ 393,000	4	\$ 124,000
Grants			2	\$ 99,000
CDA/NDA/PIA Interinstitutional Agreements	15		84	
MOUs			1	
Jack's Contract Reviews			1	
			100	

Next Tool - Create an Office Financial Operating Statement

- 1. REVENUES = Deal royalties + Deal sponsored R&D + Grants.
- 2. INVESTMENTS = Patents or other IP Protection + Gap Funds + Internship stipends + Consultants + External Reviews + Show & Tell Events.
- 3. EXPENSES + Operations (OTT Salaries + Travel + Office supplies + Show & Tell Events).
- EXCESS CASH = 1 + 2 – 3.



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COMMITTED (not Speculative) REVENUE PROJECTIONS

Title	Licensee	FY 2014			FY 2015		
		14 Royalties	14 Grants	14 Other	15 Royalties	15 Grants	15 Other
Assessment 2 Instructions software	Rubicon Partners, LLC	\$ -			25,000		
software	LECO Corporation	\$ -			beta test license		
software	Lexia Learning, Inc.	\$ -					253,934.44
ADHD therepeutic	Avekshan, LLC	\$ -			not a license	345,344	
CDK5RAP2 antibody	Millipore Corporation	\$ 94			\$ 100.00		
Cell Stage Identifier Antibodies	Millipore Corporation	\$ 209			\$ 200.00		
Assay and treatment technologies for Hepatitis C virus	BioFront Technologies	\$ 1,139					
Various nut allergens	BioFront Technologies	\$ -					
Human IgE Protein	KeraFAST	\$ 225			\$ 200.00		
Live Tissue Preservation Chamber	KeraFAST	\$ -			\$ -		
Circadian Rhythm antibodies	KeraFAST	\$ -			\$ -		
HGF-1 Protein; Mouse KLK-1 Recombinant	KeraFAST	\$ 203			\$ 200.00		
Human Growth Factor research	Trefoil, E&B	\$ -			15,000		Option fee

TOTALS

\$1,870

\$0

\$0

\$40,700

\$345,344

\$253,934

Create a Financial Balance Sheet

- 1. ASSETS = Patent applications + Patents Issued + Deal Royalties + Deal Sponsored R&D + other (federal) Grants + Equity in Spin-Out companies (conservatively \$1.00 /company), etc.
- 2. LIABILITIES = Payouts to Inventors and University + cost of Unlicensed Patents, etc.
- 3. EXCESS Assets over Liabilities = 1 – 2 = 3.



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FSU Product Pipeline 2005

260 Invention Disclosed; 320 Provisional/Utility Patent Apps; 143 US Patents since FY 1995
75 CDA's completed; 22 Deal Opportunities*

PRODUCT	LICENSEE	APPLICATION	PRE-LICENSE	LICENSED TO CORPORATIONS		
				Product Development	In Market	Terminated
EDUCATION						
Job Skills Education Program (JSE)	NCS Pearson Publishing	basic job skills army training	████████	████████	████████	
WebPath	FSU	medical pathology	████████	████████	████████	
Fl Center Academic Advisory Servi	State of Florida	high school - university	████████	████████	████████	
Partners for Healthy Baby Books	FSU	early child care	████████	████████	████████	
Womens' Self Esteem Book	FSU	consumers	████████	████████	████████	
Science Tobacco & You	TSI	grade 4 - 8 science education	████████	████████	████████	
MagLab Alpha	Sempco Inc.	grade 4 - 8	████████	████████	████████	████████
Ethics Course	LearnSomething.com	state government	████████	████████	████████	████████
PHARMACEUTICAL						
synthetic-Human Growth Factor	GAP Funding	tissue growth	XXXXXXXX			
Taxol analogs	Taxolog (S)	cancer	████████	████████		
Metronidazole	SDR Pharma	antibiotic - vs ulcers	████████	████████		
Metronidazole	SDR Pharma	Xray radiosensitizer	████████	████████		
Taxol production method	Bristol-Myers Squibb	cancer	████████	████████	████████	████████

- When & Where

Expectations
- Most people, if they know anything, have heard about the Blockbusters:
 - Taxol™ (FSU),
 - Gatorade™ (UFlorida),
 - Medivation – prostate drug Xtandi™ (UCLA spinout) sold to Pfizer for \$13 billion in 2016.
- Big Hits happen in TT as often as major breakthroughs in academic research – rarely!
- Small TT hits more likely, like small research advances.
- Big Hits happen as frequently as buying a winning Lottery Ticket - rarely !

Again Expectations

So talk about:

- the increase in research funding,
- the increased profile and reputation of the University,
- the benefits for local companies,
- the creation of new Jobs via spinout companies,
- Academic technology transfer does work over time, but measure progress in more ways than simply financial return.

Expectations – the US Experience

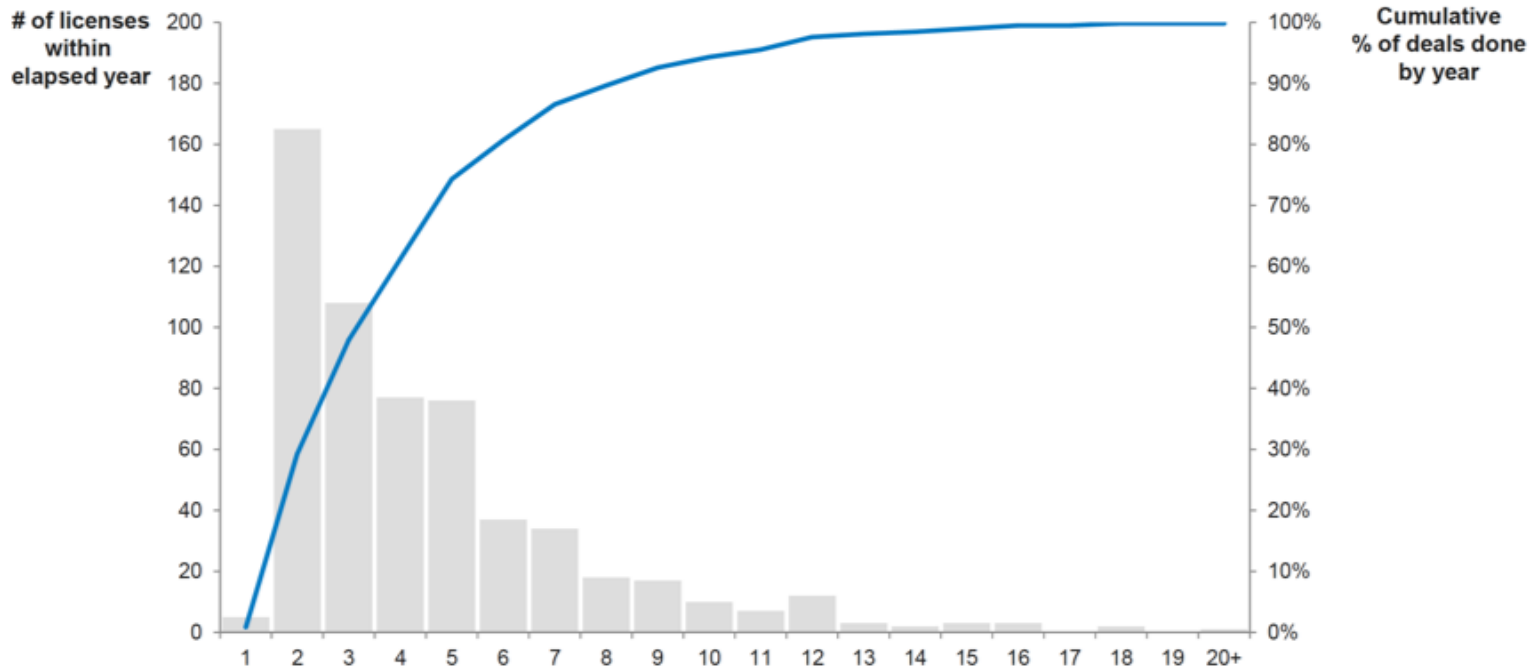
- At Columbia University – 100+ Licenses per year, 15 spinouts, 18 licensing + marketing people, 35 years experience, \$800+ million in research, in the middle of America's commercial capital:
 - 50 % of licenses are signed within 3 years from patenting,
 - 70% of licenses are signed 7 years from patenting,
 - At license signing, corporate product development begins:
 - Software – 2 more years development before market entry,
 - Pharma – 8 more years development.
 - Royalties when product enters marketplace.
- Through personal experience, Ashley Sevens estimates that grant related disclosures occur 5 years after a grant is awarded.

One conclusion - Time

- The generational timeframe is similar to the research career of the faculty member and much, much shorter than the timeframe of the Institution.
- Question: Why do you expect fast results from tech transfer when significant results for a research program take years or a decade to accumulate?

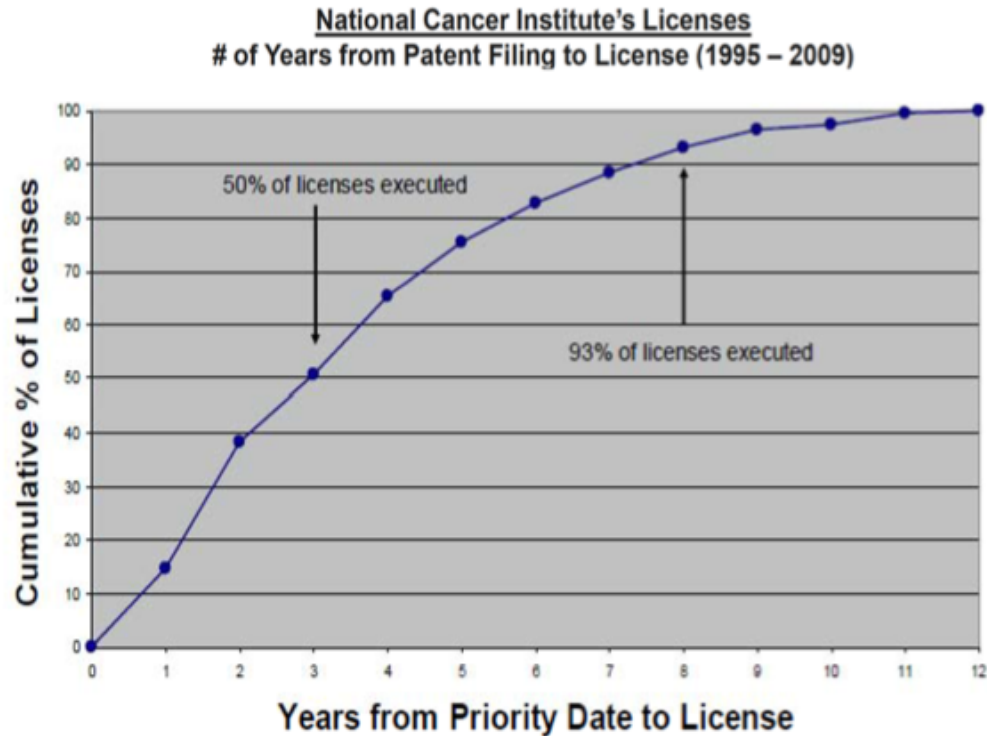
Inventions Often Take Years to Get Licensed: Only ~50% of Deals Done by Year 3, only 70% by Year 5

**Columbia University:
of Years from Invention to First License**

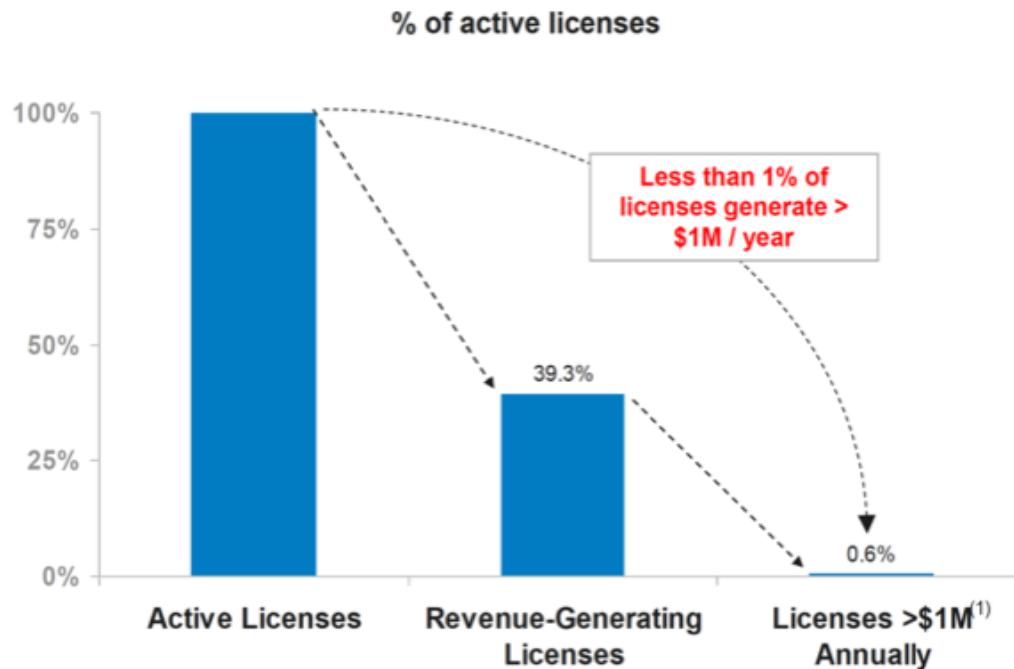


Source: Review of elapsed time from invention submission to executed license, for all 580 of Columbia's executed licenses from 1982 until 2011 (29 years)

Columbia's Experience Mirrors that of Other Institutions

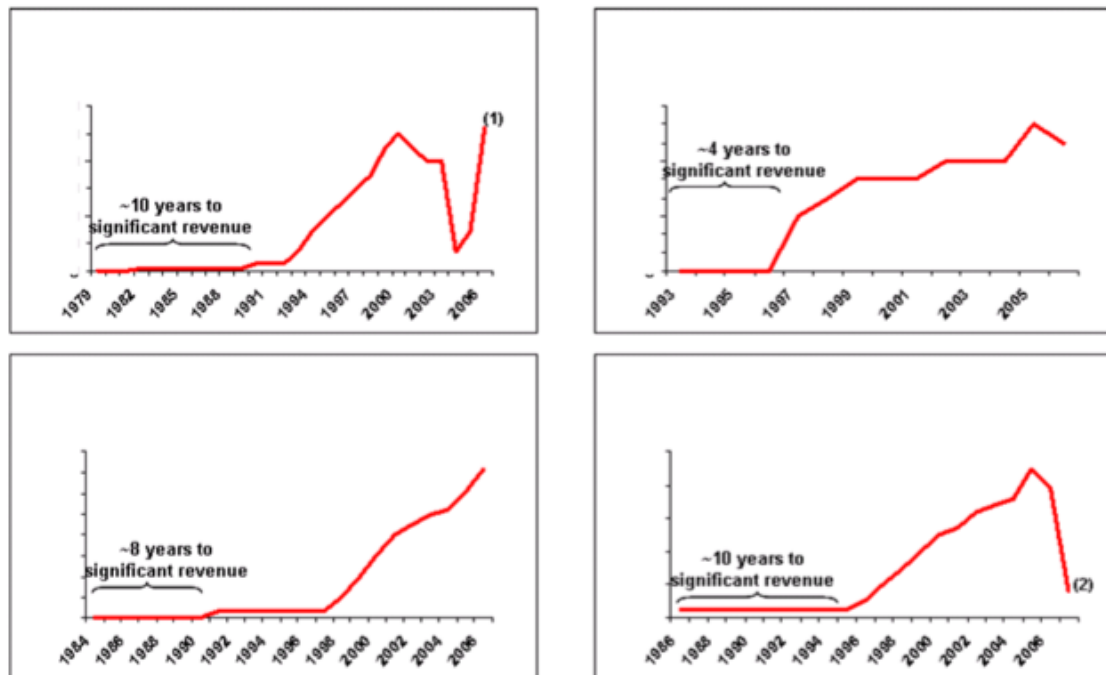


“Blockbusters” Drive Most of the Revenue, But are Rare



And “Big Winners” Take Many Years To Develop ... And Aren’t Always Obvious at the Time

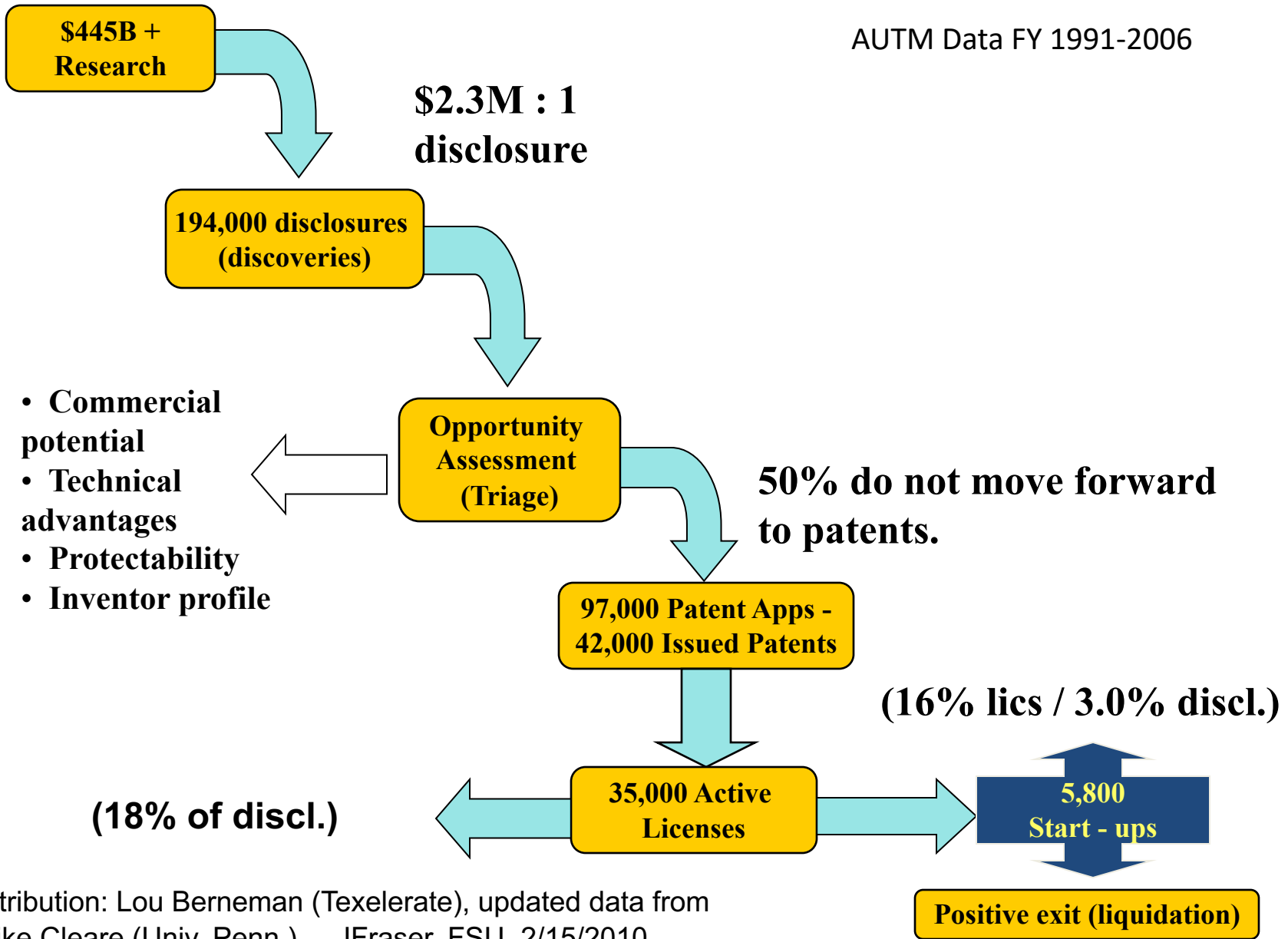
Columbia’s Four Biggest Revenue Producers
(Revenue per Year)



Failure is a Key Characteristic of the US Experience !

From Disclosure to Patent Royalties

AUTM Data FY 1991-2006



Attribution: Lou Berneman (Texelerate), updated data from Mike Cleare (Univ. Penn.) JFraser, FSU, 2/15/2010.

Off Campus Audience

- Many people off-campus that you will talk with did not specialize in Science or Engineering (STEM) at college. They took business, accounting, law or the Arts or Humanities.
- STEM or Medical Research may seem too esoteric for them.
- Using parallels with research is not likely to work.
- What do you do?

Increasingly, the University and its Society realize that

- Exposing students to how to work with, and in, the private sector through on-hands projects during their university experience is increasingly important.
- The traditional impact of the University is no longer enough as the world changes.
- Research collaborations with companies, Entrepreneurship and transferring technology can lead to creative problem solving, access to new financial resources, student hirings and Job creation.

How to Communicate the value of public sector/academic technology transfer.

- Communicate the value of the impact (lives saved) and the outcomes (products), not simply the inputs (patents) and outputs (licenses).
- At some point you can do a study of your Licensees (Existing companies and Start-Ups to determine Jobs created or sustained; Investment \$\$ made locally or in State and possibility average salary of Licensed project.

Science: The Endless Frontier July 1945

- Vannevar Bush: Scientific Progress is Essential
 - For the War against Disease;
 - For our National Security;
 - And For Public Welfare.

‘One of our hopes is that after the war there will be full employment. To reach that goal the full creative and productive energies of the American people must be released. To create more jobs we must make new and better and cheaper products. We want plenty of new, vigorous enterprises. But new products and processes are not born full-grown. They are founded on new principles and new conceptions which in turn result from basic scientific research. Basic scientific research is scientific capital. Moreover, we cannot any longer depend upon Europe as a major source of this scientific capital. Clearly, more and better scientific research is one essential to the achievement of our goal of full employment’.

Vannevar Bush

- As a young professor at MIT in the 1920s, Vannevar Bush (1890-1974) did seminal work on analog computing and was a cofounder of Raytheon. But he is best known for his role in Washington during World War II: as President Roosevelt's advisor, he organized the Manhattan Project and oversaw the work of 6,000 civilian scientists designing new weapons.
- His 1945 report "Science -- The Endless Frontier" spurred the creation of a system of public support for university research that endures to this day.

Remember

- The system of public support for university research that endures to this day is not based on the idea that basic research is a good thing by itself.
- It is based on the hope of benefits for society in terms of new products and full employment.

More Examples of Successful Tools

C1: Communicating Your Impact
AUTM AGM, Phoenix, 2018
Monday Feb. 19, 4:00-5:30PM

Examples from U of Cambridge, Canada, AUTM,
BIO, US Federal government, others.

AUTM TOOLS

- AUTM Better World Report.
- AUTM Studies (Medical Devices).
- AUTM Infographics.



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Driving the Innovation Economy academic technology transfer in numbers

From 1996 to 2015, up to...

\$1.3 trillion

contributed to
U.S. gross
industrial
output



\$591 billion

contributed to
U.S. gross
domestic
product



4.3 million

jobs supported



380,000+
inventions disclosed...

80,000+
U.S. patents issued...



to research institutions in the past 25 years

11,000+

startups formed
since 1995



70%

of university innovations
licensed to startups and
small companies



200+

drugs and vaccines
developed through
public-private
partnerships since
Bayh-Dole Act
enacted in 1980



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The Association of University Technology Managers (AUTM) is the nonprofit leader in efforts to educate, promote and inspire professionals, throughout their careers, to support the development of academic research that changes the world. AUTM's community is comprised of more than 3,200 members who work in more than 800 universities, research centers, hospitals, businesses and government organizations around the globe.

This information was compiled from Association of University Technology Managers (AUTM) and the Biotechnology Innovation Organization (BIO): The Economic Contribution of University/Nonprofit Inventions in the United States: 1996-2015, June 2017 as well as the AUTM U.S. Licensing Activity Survey Highlights 2016 and AUTM Statistics Access for Technology Transfer (STAT) Database, www.autm.net/STAT, and the Academic Patent Licensing Helps Drive the U.S. Economy, IPWatchdog.com, June 20, 2017.

Sponsored Programs Database Western Kentucky Univ.

TPMT: Diagnostic Test to Tailor Drug Dosage to Genetic Profile
St. Jude Children's Research Hospital

Tactical Mobile Power Technology: 10-kilowatt Vehicular Power Source (VPS-10K)
Mississippi State Univ.

Restasis
Univ. of Georgia

FoodSource Lures
Auburn Univ.

Falconview
Georgia Inst. of Technology

AU MEDS
Auburn Univ.

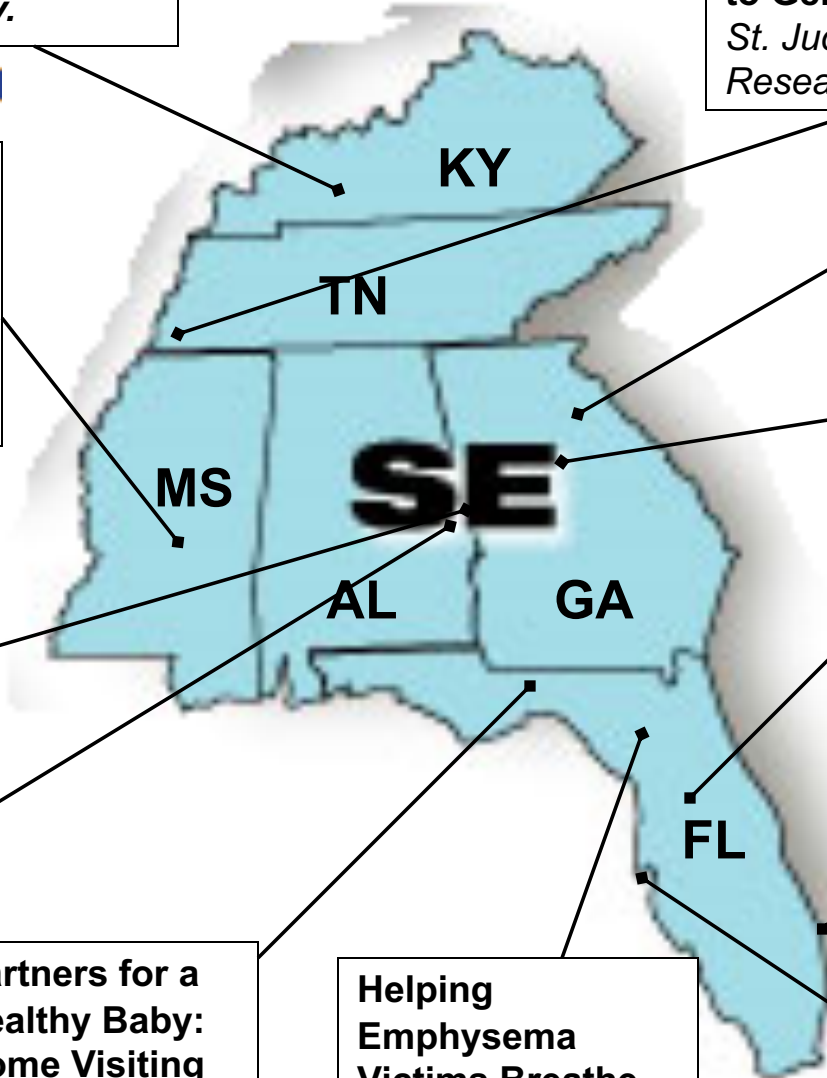
Optigrate Inc. Method of Developing Holograms
Univ. of Central Florida

Partners for a Healthy Baby: Home Visiting Curriculum
Florida State University

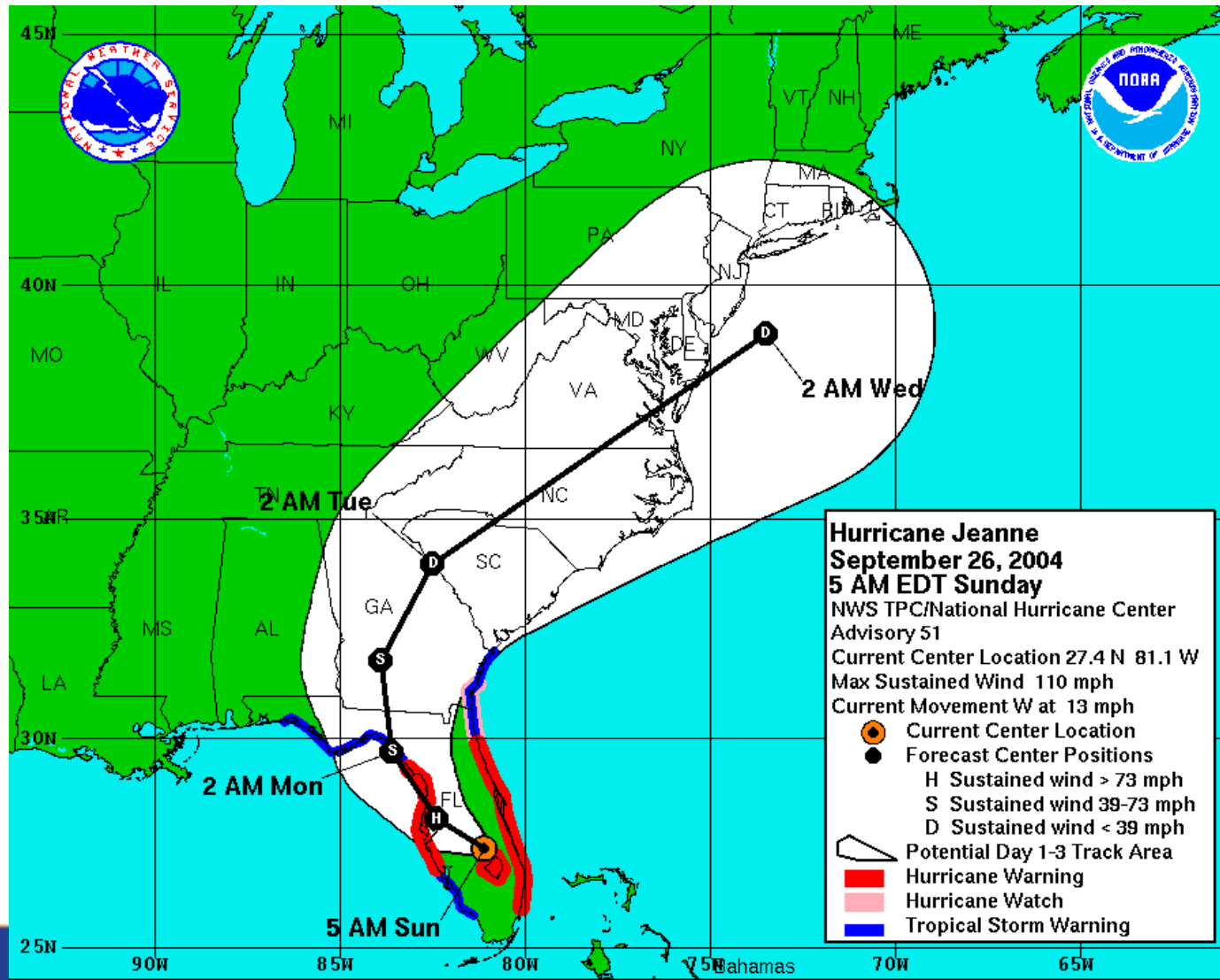
Helping Emphysema Victims Breathe Again
Univ. of Florida

Chirp Sonar to Locate Underwater Buried Objects
Florida Atlantic Univ.

Underwater In-Situ Mass Spectrometer
Univ. of South Florida



Technology Transfer to a new company – FSU to Weather Predict, Inc.





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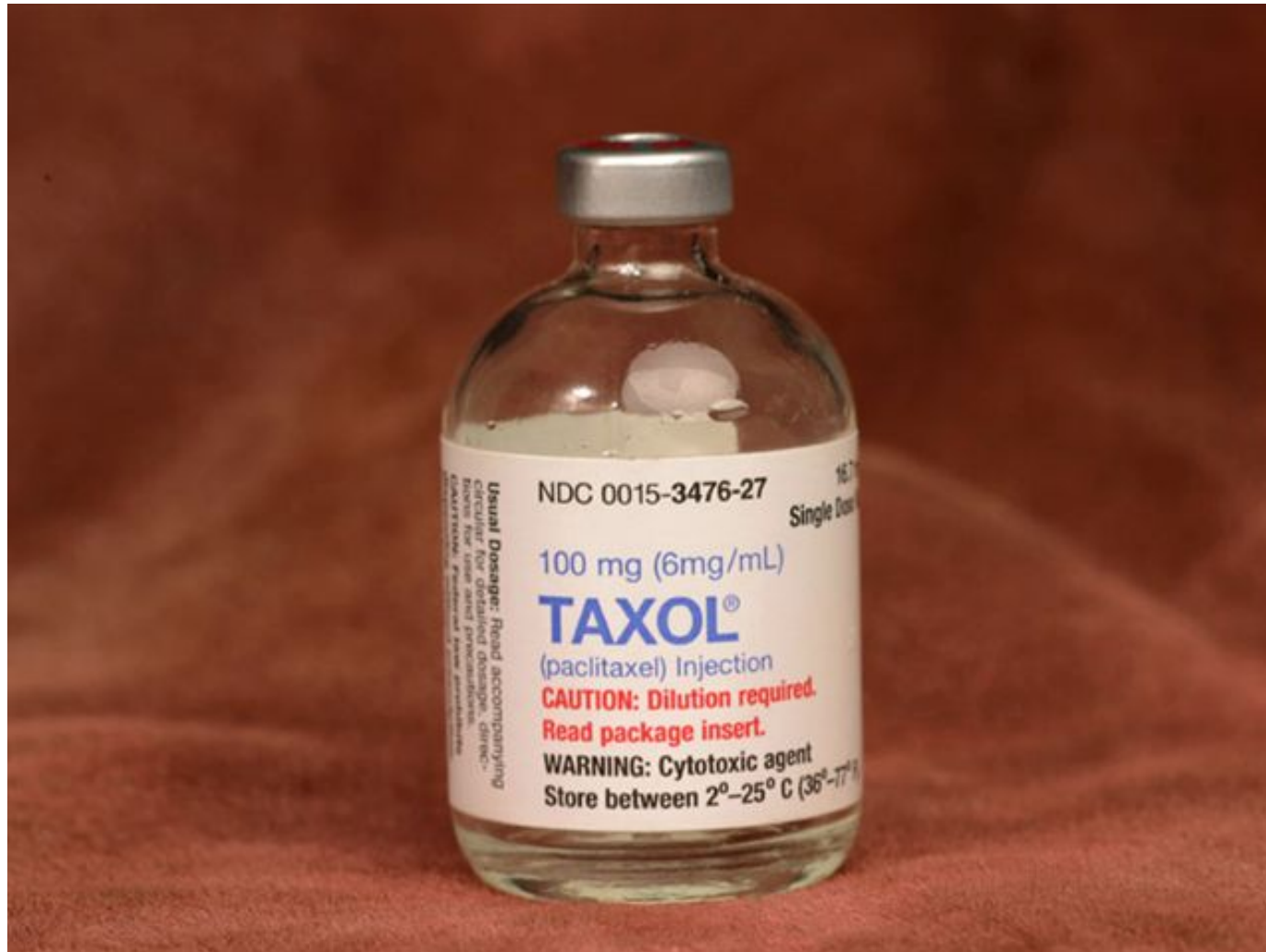




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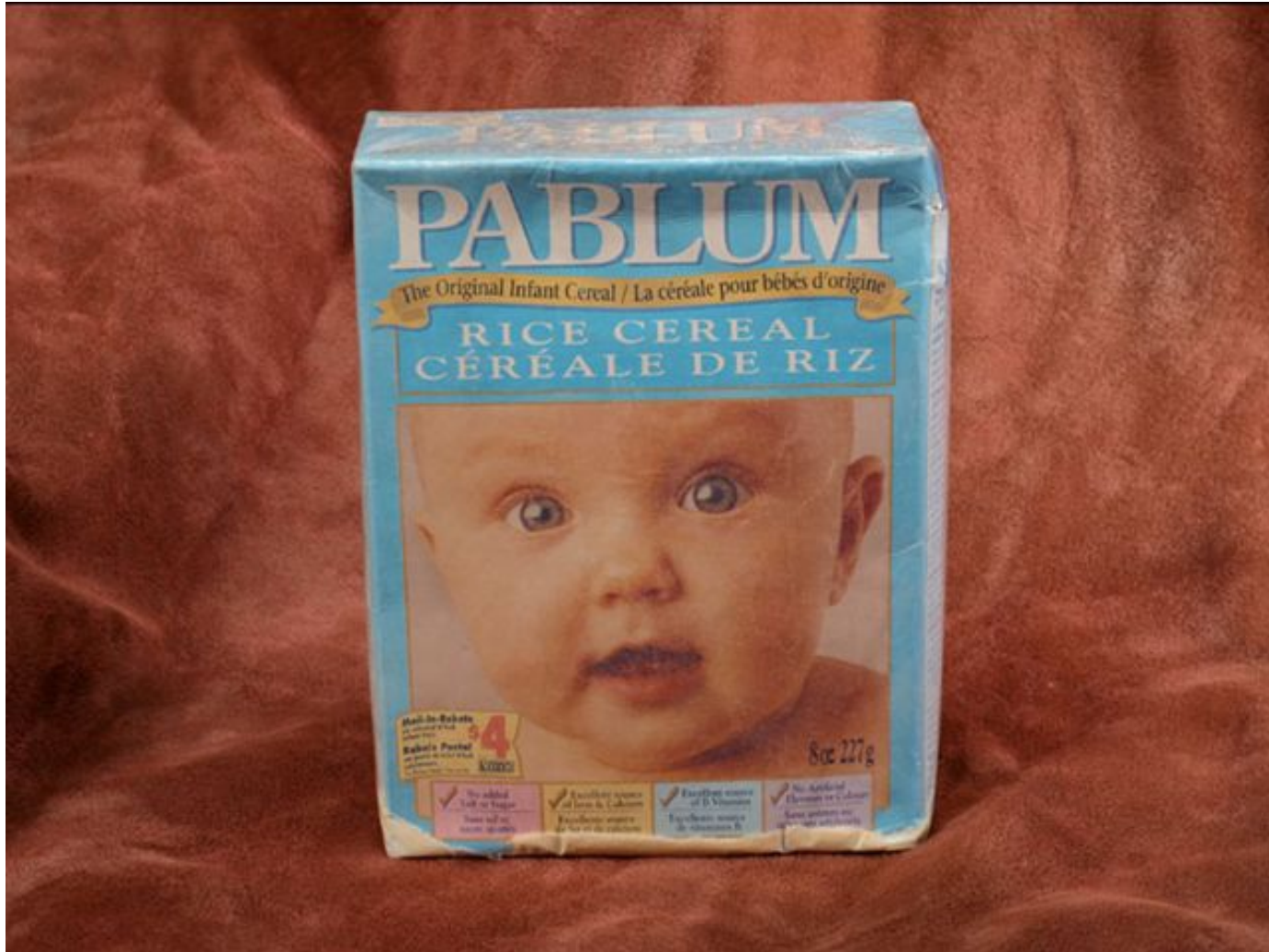




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Portal Infuses Technology into K-12 Classrooms
Web-based systems that offer teachers a searchable curriculum database, resources and professional development blend old-fashioned learning with technology. [Read More](#)

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How do you assess Effectiveness of your Communications Plan?

- Set Realistic Expectations for Achievements.
 - Obtain and SUSTAIN Budgetary resources for the TTO in 5 year Increments,
 - Is participation via Disclosures increasing,
 - Deals and Increase in R&D base increasing.
- Communicate !
 - Are your Stakeholder your Advocates, still Skeptics or worse Indifferent?
 - Do you get invited to the 'right' meetings?
 - Do you have a powerful story to tell on 15 minutes notice or in a Quick Elevator pitch to the President?
 - Do you have sample Products in your pockets at all times?
 - Are you seen as part of the University community or just an administrative office?

Lessons Learned - 2

- Draw parallels to research on-campus:
 - Big Hits happen in TT as often as major breakthroughs in academic research – rarely;
 - Big Hits happen as frequently as buying a winning Lottery Ticket - rarely;
 - The timeframes involved in ‘disclosure to deal’ is within the 35 year timeframe of researchers;
 - Research involves many dead-ends;
 - Measure TTO success in more than one way (Financial), the same way that you measure success in research in more than one way (Publications).

Lessons Learned - 3

- Talk about the Impact – off campus.
- Students exposure to hands-on projects in TT.
- New products create Innovation which creates Jobs – a modern given.
- AUTM Stats show that 18% of yearly deals are to spinoffs, 50% are to small and medium sized companies and 32% to multinationals.
- Many Universities collect jobs data from local Spinouts, but not from Licenses to existing companies.
- AUTM Infographic shows broader impact from BIO Study – Lori Pressman.
- The Impact is to save lives, improve the quality of life and increase corporate productivity and competitiveness and to gather such data.

Closing Out with Some Quotes from a Linked-In entry

- "Think like a wise man but communicate in the language of the people." - **William Butler Yeats**
- "We have two ears and one mouth so that we can listen twice as much as we speak." – **Epictetus**
- "Of all of our inventions for mass communication, pictures still speak the most universally understood language." - **Walt Disney**
- "Humor is the affectionate communication of insight." - **Leo Rosten**
- "Two monologues do not make a dialogue." - **Jeff Daly**
- "You cannot truly listen to anyone and do anything else at the same time." - **Scott Peck**
- "Give me the gift of a listening heart." - **King Solomon**

THANK YOU !

Q &A

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KEY FACTORS in SUCCESSFUL TECHNOLOGY TRANSFER

Expectations: How you measure success MATTERS !!!

- Early in the Life of the TT Activity measure disclosures, researchers engaged, patents filed/issued, CDAs, etc.;
- + After 5-7 years measure Licenses signed, research dollars obtained, Start-ups created;
- + After 10 years measure Start-Up Jobs and Investments; Products near/in the marketplace; Results of research collaborations.

Expectations: Measuring Success by Royalty Income

- Licensing Income is a straightforward metric, clear, useful and measureable.
- BUT, it is an isolated, too narrow indicator, not under any control by the university.
- In the US , 30 years after the Bayh-Dole Act, 50% of university TTO's are not at breakeven (i.e. Licensing Income minus Office Expenses - Abrams, Stevens, 2009).

After 30+ years of US technology transfer, big companies are not the only players

FY	Total Licenses /Options	Start-Ups	Small Co' s	Large Co' s
'99	3,792	12%	50%	38%
'04	4,624	14%	54%	32%
'13	6,554	15%	53%	32%