I've got an idea...now what?



Ideas empowered.

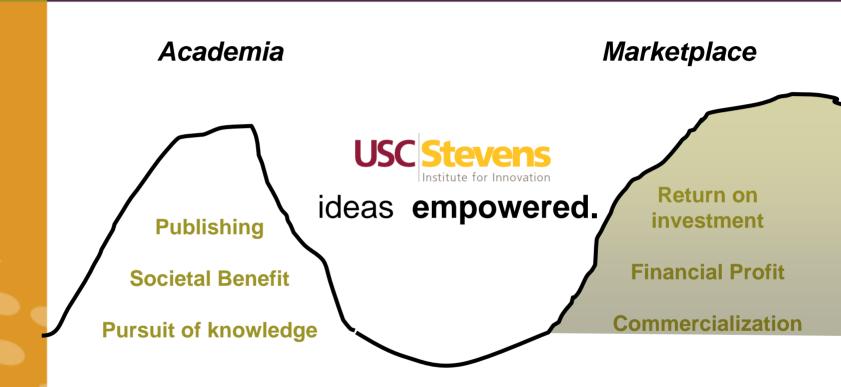
# **Academic Perspective: Role of Technology Transfer**

**Christopher Moulding USC Stevens Institute for Innovation** 

iSBTc 2008 Oncology Biologics Development Primer – Feb 28, 2008



# **Bridging the Gap: USC Stevens**





#### **About USC Stevens**

- Mission: Empower USC innovators to make impact with their ideas
- University-wide resource in the Office of the Provost
- Significant university commitment
  - Staff of 24 (~30 by early 2008)
  - Encompasses former "Office of Technology Licensing"
  - Supported by Provost's office and \$22M naming gift from Mark and Mary Stevens



# **Expanding Roles for University**

- Traditional (since 1980s) patenting and licensing
- Integration of inter-departmental resources
  - Clinical departments with research labs (CTSA, etc.)
  - Business school with marketing/business analysis of clinical projects
  - Cross-disciplinary educational programs legal, business, biology, etc.
- Inter-Institutional partnering to share resources
- Proof-of-principal, gap funding sources
- Mentoring programs with outside experts
- Early-stage meetings with angel, VC investors
- Incubator facilities



### **Functions of Traditional Tech Transfer Office**

Ideas empowered.

# **Patenting**

- Receives disclosure, investigator initiated
- Federal (sponsor) reporting
- Confirm ownership status of materials
- Evaluate patentability
  - Novel? Non-obvious? Useful?
- Evaluate commercial potential
  - Identify products/markets/sizes/need
  - Ability to police infringement
- Evaluate technical feasibility
- Decisions to file
  - Provisional application
  - Nonprovisional and PCT
  - National Phase



#### **Functions of Traditional Tech Transfer Office**

Ideas empowered.

# Licensing

- Who best able to commercialize?
  - Inventor contacts
  - TT office contacts, databases, market studies
- Attract Licensing Interest
  - Meet with Inventor contacts
  - Direct email/phone contacts
  - Mass marketing campaign
- Negotiate Agreement
  - Deal terms, fees + royalties
  - Patent strategy/control
  - Improvement technology
  - Diligence to commercialize
  - Warranties, Indemnification
- Manage Relationship with Licensee



# **Patent Costs over Time**

	00 years	01 <sub>years</sub>	02 years	03 <sub>years</sub>	04 years	05 <sub>years</sub>	06 years
U.S.	<b>PRV Filed</b> (\$100 - \$5k)	<b>Non-</b> <b>PRV Filed</b> (\$8k - \$15k)		<b>1<sup>st</sup> O.A.</b> (\$2k - \$3k)	<b>Prosecution</b> (\$2k - \$3k)	Patent Issues (\$2k)	<b>Total</b> (\$15k - \$25k)
Foreign		PCT Filed (\$4k - \$5k)	National Phase Europe - \$15k Japan - \$30k Canada - \$2k Australia - \$2k China - \$5k		Prosecution (\$3k - \$15k)	Prosecution (\$3k - \$15k)	Patent Issues Europe - \$30k Japan - \$10k Canada - \$2k Australia - \$2k China - \$5k
Total	(\$100 - \$5k)	(\$12k - \$20k)	(\$2k - \$3k)	(\$5k - \$50k)	(\$3k - \$15k)	(\$3k - \$15k)	(\$55k)
Cumulative (approx)	\$100 - \$5k	\$15k - \$25k	\$17k - \$28k	<b>\$22</b> k - \$78k	\$25k - \$93k	\$28k - \$108k	~ \$165k



# **Changing Patent Landscape**

- Patents on many biological modifiers due to expire
  - Cytokines, growth factors, associated genes
  - Novelty and obviousness become higher hurdles
  - Breadth of future patent coverage narrows
  - Freedom-to-operate probably increases
- New Rules USPTO Patent Reform
  - First-to-file instead of first-to-invent
  - Information disclosure requirements increased
  - Limits on continuation, divisional applications, and claims
  - Patents will cost more (minimum 2X)



#### **Invention Disclosure Elements**

- "Non-Confidential" Title
- Date received in Office
- Inventor Names/Contact Info
- Funding source/Grant #s
- Third party materials involved?
- Subject of Contract Research or Consulting Activities?
- Published or Presented?
- When or when anticipated?
- Complete description of technology
- Market information if available
- Key words for searches
- Signature, Home Address, Country of Citizenship

Date Received	University of Southern California							USC File No.			
	Technology Disclosure										
Non-Confidential and Descript	ive Title	of Technology									
•											
2. Inventor(s) &/or Software		Telephone Fa		Fax number		idress	Employer/Position	Departmental Address			
Author(s) – Identify one preferred contact											
Country											
3.a. Has any funding been used, in whole or in part, to conceive, make, test, or develop the technology? (List additional sponsors on a separate sheet.) Please note that accurate and complete sponsorship information is necessary to fulfill USC obligations under research contracts and Federal											
grants.	,	, , , , , ,			,						
☐ Yes ☐ No If yes, list the following informati	ion.										
Grant Number		USC Account No		Sponsor		P.	incipal Investigator				
3.b. Have any USC funds and/or facilities been used, in whole or in part, to conceive, make, test, or develop the technology?											
□ Yes □ No											
If yes, please identify and list the specific USC account numbers and/or USC facilities used. If necessary, list on a separate sheet of paper.											
4. Are any of the inventors affilia	ned with	the Alfred Man	n Institute	(AMI-I	JSC)? E	Yes	□ No				
If yes, please identify the invento	r(s) and a	affiliation(s).									
5. Does the technology include software?   Yes  No If Yes, please complete the "Software Addendum."											
6. Have you received materials of	or equipa	nent from a third	party in co	ennectic	on with thi	is technolo	rgy?				
☐ Yes ☐ No If yes, please attach any relevant:	unitten s	oraements with	the third no	uto (fine	evamole	material t	ransfer agreement (M	TAN			
7. Are there any other arrangeme											
□ Yes □ No											
If yes, please attach the relevant written agreements.											
<ol> <li>Please list the dates and locations of the following:</li> </ol>			Date				o. or Publication	Page			
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Conception of the invention											
First written description			+	_	-						
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First reduction to practice											



# **Keys to Success with Tech Transfer Office**

Ideas empowered.

#### DO

- ✓ Fill out disclosure form completely
- ✓ Identify publication/ presentation dates
- ✓ Seek meeting with licensing officer
- ✓ Demonstrate knowledge of prior art and your improvement to it
- ✓ Evidence fundability
- ✓ Build relationships with companies of interest

#### **DON'T**

- Send just manuscript
- Give short notice of publication/presentation
- Withhold information about funding or materials sources
- Assume tech transfer office will file patents and find licensee
- Provoke adversarial relationship with TTO
- Drive unreasonable license terms

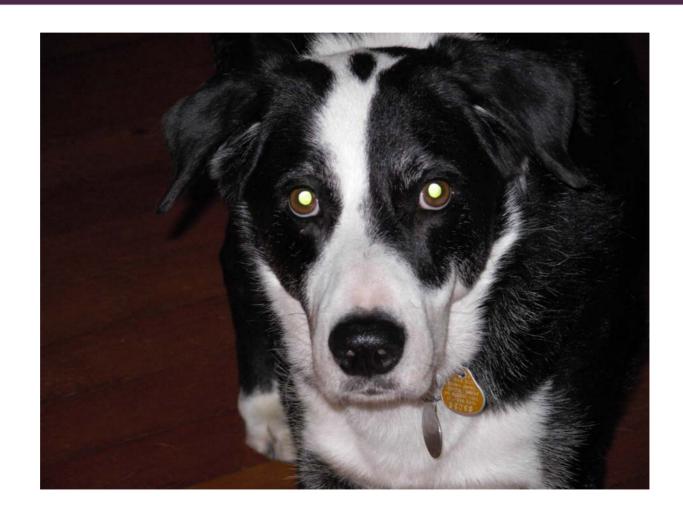


# What's selling and for what price?

- Patented or unique biologics with positive animal data and a credible strategy for clinical development
- Technical risk, market opportunity, and extent of third-party royalty obligations help determine licensing fees and royalty
- Total known royalty burden >5% will seriously limit investment interest
- University licenses of biologics generally return ~2% royalty, license fees in range of \$50-100K/yr, with \$250-500K upon clinical success
- Patent cost reimbursement is assumed



# Buck says "Find a cure—woof"





## **USC** Contacts

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