






CTRECP
Clinical & Translational
Research, Education and
Commercialization Project








Technology Development through open innovation in New Orleans

Steven Ceulemans
Commercialization Coordinator
sceule@lsuhsc.edu



I am ...









EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre



SOFTWARE AG
THE XML COMPANY

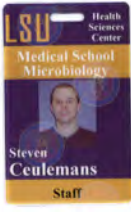







CTRECP
Clinical & Translational
Research, Education and
Commercialization Project

}

Commercialization Coordinator

Open Innovation

Definition

Open innovation constitutes a paradigm where firms should use both internal and external ideas and paths to market in their technology advancement.



OPEN INNOVATION

Business strategy where partners contribute to value realization.

Often involves IP creation to facilitate value extraction.

VS

OPEN SOURCE

Freely shared information and other resources.

Almost never IP creation. Direct value extraction often difficult.

Common goal: less restrictive flow of ideas, resulting in innovation.

Source: *Open Innovation*, by Henry Chesbrough: Harvard Business School Press (2006)

Invention vs. Innovation

Invention and Innovation are often equated. However 2 distinct definitions have been evolving:

- Invention is the 1st occurrence of a new idea as a new product or process.
- Innovation is the attempt / process of bringing an invention into practice.

Innovation captures the actualization of an invention in the form of social benefit, commercialization, market entry, or monetization.

Engineers have a unique opportunity to be a catalyst for innovation, but “systems thinking” is a must!

Systems thinking

- The right thing, at the right time, in the right form, for the right people.
- Provide solutions within the current context or provide a new context.
- If thinking does not fit the box, get new box.
- E.g.: Thomas Edison designed the entire electrical system in order to provide the context for his light bulb.

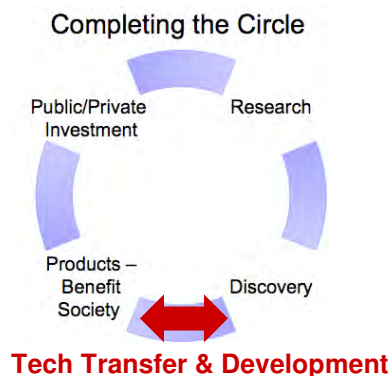


A Vehicle for BioInnovation: Research Commercialization through Tech Transfer

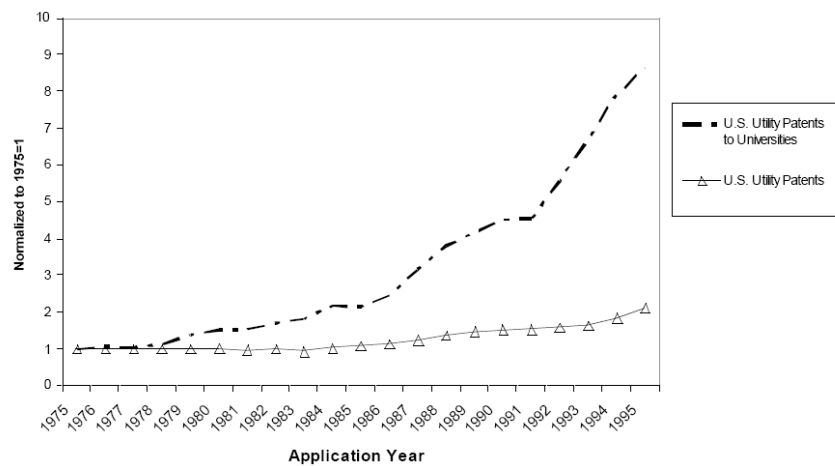
Definition

Movement of information, materials and technology from research laboratories to commercial enterprises for the purpose of further development and commercialization.

Rationale:

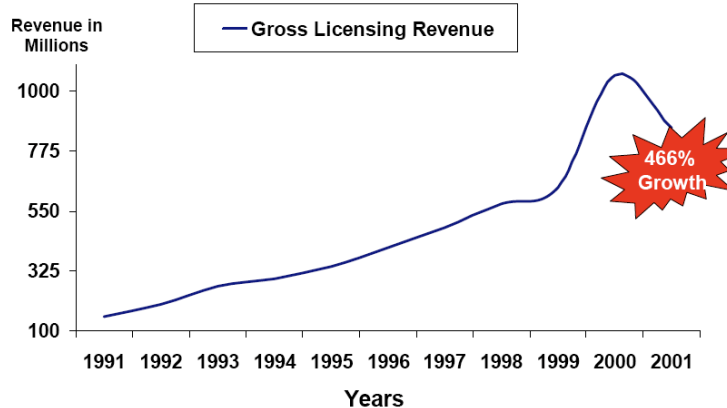


University Tech Transfer Trends



Source: *The use of University Research in Firm Innovation: Kira R Fabrizio, Emory University Open Innovation: Researching a new Paradigm: Oxford University Press (2006)*

Gross University Licensing Revenue



Source: *AUTM Licensing Survey 1991-2001 (Data for all Recurrent Survey Respondents 1991 – 2001)*

BioInnovation in Louisiana



Commercial Mission & Aims

Mission

Establish pathways to more efficiently translate new discoveries into cures and treatments, create new partnerships between the institutions and existing bio-tech companies, and create bioscience business training opportunities for students.

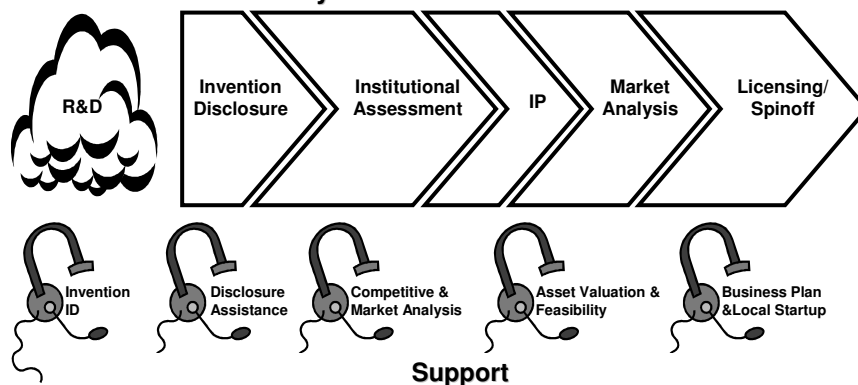


Aims

- (Student) exposure to the bioscience industry.
- Inventory of capabilities & discoveries.
- Commercial assessment and marketing of discoveries and IP.

Facilitating Open Innovation

University Tech Transfer Process

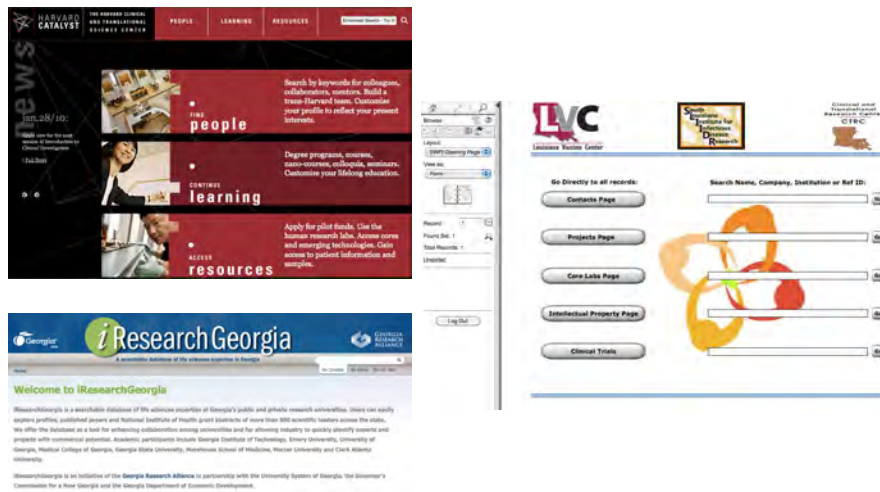


Exposure to the bioscience industry: Discovery awareness

The collage features eight distinct promotional materials:

- Innovation and Technology Leadership:** A poster for a June 25th-26th event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- Commercial Awareness For RESEARCHERS:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- Bridging Louisiana Bioscience:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- BIOTECH CONNECT:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- SPEED NETWORKING:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- BIOSCIENCE ANGEL CAPITAL IN NEW ORLEANS:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- Open Innovation Webinar:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.
- Breakthrough Medical Technologies:** A flyer for a September 22nd event at the University of Louisiana at Lafayette, featuring speakers like Dr. Robert Langer and Dr. Robert Langer.

Inventory of capabilities & discoveries: Skills/Capabilities Database with Web Access



Student Exposure

OUTCOMES

- 07/2009 1 Graduate Intern became Tulane faculty.
- 09/2009 1 Graduate Intern hired as NOBIC grants manager.
- 09/2009 3 Graduate Interns hired as NOBIC/LVC resident fellows.
- 01/2010 1 Resident fellow hired as 1st employee for startup.

Research and Discovery Inventory: Faculty Interviews

Objective:

- Identify novel inventions, assess and disclose them, and raise awareness related to inventions and IP development.

Results to date:

- 70 Target researchers identified.
- 28 Priority researchers interviewed to date.
- 35 invention disclosures submitted or underway in the areas of clinical diagnostics, methods, research tools, therapeutics and vaccines.

Commercial Assessment of discoveries & IP

OUTCOMES

- 2 Operating Startup companies:
 - **Nutritional Medicinals (NuMe)**
Portfolio company specializing in medicinal/functional foods.
 - Presented at SEBio Capital forum, currently raising capital.
 - \$500,000 VC seed money.
 - 1 SBIR submitted.
 - **Meta-Logos**
Nano-pore detection platform.
 - Entrepreneur attracted with private equity input.
 - \$100,000 seed grant capital attracted.
 - 3 SBIR submitted for +/- \$1,000,000 total

Commercial Assessment of discoveries & IP

OUTCOMES

- 3 business plans underway:
 - **NOvate**
Medical device to cut clamp and disinfect umbilical in newborns.
 - \$50,000 seed money from various grant sources.
 - Entering Tulane social entrepreneurship business competition.
 - **Nanofex**
Nano-particle technology platform with medical device uses.
 - EPSCoR ties with industry grant submitted.
 - Entering Tulane business plan competition (collaboration Tulane MBA New Venture Creation class).
 - **HPV roadmap**
Diagnostic for optimal use of HPV vaccine / monitoring.
 - Business plan under development.



"It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change."

Charles Darwin
(1809-1882)

Source: Flammarion's *L'atmosphère: météorologie populaire* (1888)