

# Technology Commercialization at USU

Dr. Raymond DeVito  
Director, Technology Commercialization Office

# Technology Commercialization at USU

How does TCO fit into the University Mission

Who are we at TCO

What we do

Industry Sponsored Research at USU and  
Intellectual Property

# How does TCO fit into the University Mission?

## MISSION

Utah State University is one of the nation's premier student-centered land-grant and space-grant universities. We foster the principle that academics come first; we cultivate diversity of thought and culture; and we serve the public through learning, discovery, and engagement.

## VISION

Utah State University, as a state-wide multi-campus system, will be internationally recognized for its exceptional learning opportunities and world-class research. We strive to achieve the highest level of excellence in learning, discovery, and engagement in an environment of trust and respect. We endeavor to expand educational access to a diverse community. We seek to enhance the quality of life for individuals and communities, by promoting arts and cultural programming, by working toward environmental sustainability, and **by developing the technologies of tomorrow to drive economic development in Utah, as well as in the global marketplace.**

# USU GOALS AND OBJECTIVES

I. Undergraduate Education

II. Graduate Education

III. Discovery

IV. Engagement

V. Economic and Social Impact

VI. Access

VII. University Life

# USU GOALS AND OBJECTIVES

**V. Economic and Social Impact:** Improve the quality of life and economic opportunities for the citizens of Utah and the world through education, research, and the creative arts.

5.1 Transfer/Commercialization. Expedite technology transfer and the commercialization of intellectual properties created at Utah State University.

5.2 Local Economic Development and Quality of Life. Promote economic development and quality of life for the citizens of Utah through the expansion of new technologies and new businesses that minimize negative impacts on the state's unique environment while promoting economic opportunity, and by expanding the scope of the Innovation Campus.

5.3 Human Capital. Provide human capital to promote economic growth in Cache Valley and the State of Utah, and to strengthen the partnerships developed on national and international levels.

# Who are we at TCO?

Variety of technical backgrounds to help cover the wide range of campus research activities

Business, product development, industrial research, commercial in-licensing experience

Business start-up and business development experience

# Dr. Raymond DeVito

Director, Technology Commercialization Office



Ph.D. Physics

Prior experience:

Director of Research, Siemens Medical Systems

Founder, President and CEO, Mosaic Imaging Technologies, Inc. (medical imaging device company)

Director, Detector Systems, Constellation Technologies Inc. (Department of Defense contractor for sensor technology)

Raised \$4.3 M in federal/state funding for commercial product development

# Berry Treat

Senior Commercialization Associate  
Life Sciences



BS and MS Degrees in Agricultural Sciences

Prior experience:

University of Florida/IFAS, Assistant Director for Research Programs; Director of Exp. Stations

Florida Foundation Seed, Inc., Germplasm Manager, IP management and commercial licensing of cultivars (Floral, Field Crops, Horticulture)

Coors, Brewing R&D , Department Head of Malting/Barley R&D Research administration, Responsible for breeding several malting barleys used exclusively by Coors

# Dr. Glenn Whichard

Senior Commercialization Associate,  
Physical Sciences



Ph.D. Materials Science

MBA

M.S. Ceramic Engineering

Prior experience:

Virginia Materials Technology Corporation (chemical vapor deposition process)

Sayres and Associates Corp, (Department of Energy support)

Unisphere, Inc., (managed the company's technology assessment and technology transfer activities)

Utron, Inc., (management of materials related R&D)

U.S. Patent and Trademark Office, Patent examiner

Praxair Surface Technologies, Inc.

**UtahState**  
**UNIVERSITY**

# Allan Wood

## Licensing Assistant



MBA with an emphasis in entrepreneurship  
B.S. with dual majors (marketing and finance) and dual minors (geology and economics)

Prior experience:

Internship with TCO

Marketing research, patent searching, commercial evaluation, and licensing experience at the TCO

Management background with a small business

Marketing and sales experience with small businesses

Employee training responsibilities with a small business

## Office Support Staff

**LJ Bolton**

Office Manager

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Staff Assistant III

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# Technology Commercialization Process

- Internal process that will:
  - identify commercializable technology and,
  - legally protect it
- Transition process to:
  - benefit the public
  - income for the University and the inventor/creator
  - enhance industrial relations
  - support regional economic development

# Start with Disclosure

- Research faculty are primary source of disclosure
- Manage expectations
  - Time lines are long
  - Not all disclosures are successful
- Keep faculty informed
- Faculty do not do this full time!
- Keep priming the pump

# Typical Timelines for Technology Commercialization



Time from IP to significant product/royalty revenues

- **Software** 1 – 3 years
- **Physical Science Product** 2 – 7
- **Bio Science Product** 5 – 10
- **Pharma** 10+

# What if the work is too preliminary or not patentable?

- TCO and inventors decide if they *should* make it a priority
- TCO works with faculty to plan more work on the idea
  - Identify what is needed
  - Show potential value
  - Work on finding potential funding
- Or explain that it is not patentable
  - An idea is not a patent
  - It is not unique, not viable, not....

# Identify Commercializable Technology

Challenge is to find the winner when you have only  
incomplete predictive data

1000 ideas

100 inventions

10 commercializable inventions

Some profitable products

1 winning product

(disclaimer – numbers are demonstrative only)

# Identify Commercializable Technology

*Neils Bohr*

*“Prediction is very difficult, especially if it  
is about the future”*

# Identify Commercializable Technology

Experienced professionals

Good research methods (you need a robust process)

Use a team effort to make decisions (preferably with inventor)

Seek additional advice from professionals in the target field

# LEGALLY PROTECT IT

Patents

Copyright

Trademark

Know how

Trade secret (unlikely)

# Bayh-Dole

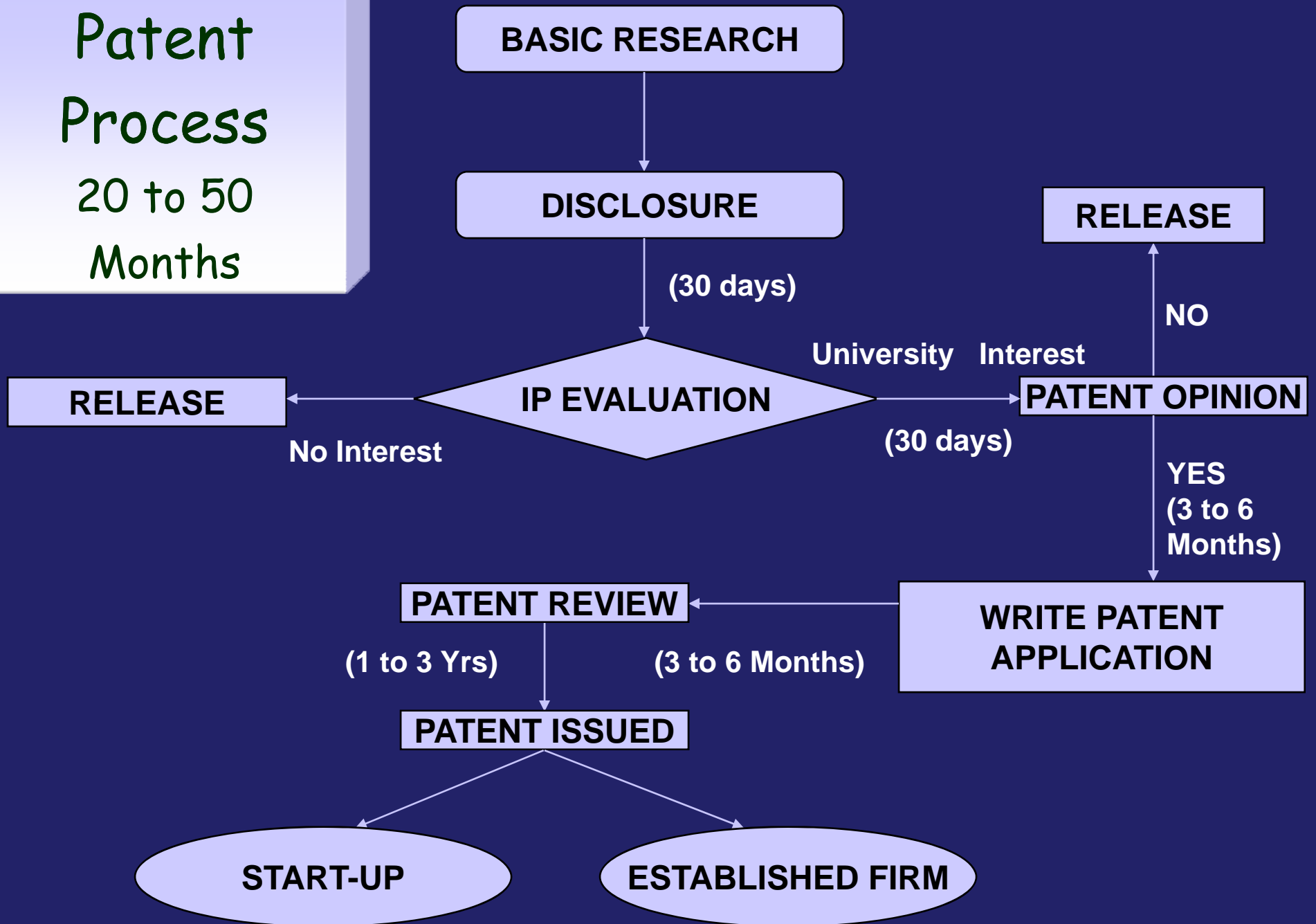
- Changed the University patent landscape
- What it means for universities (onerous ownership)
  - Ownership - Gave University title of inventions from federally funded research
  - Onerous - Obligates University to follow government requirements

# Some questions for a decision to patent

- What is its commercial value?
- How many markets does it impact?
- Was it funded under federal grant?
- Was it done with material use of university equipment and/or property?
- Who are the legal inventors? (not necessarily the publication authors)
- Does the university have a right to the property?

# Patent Process

20 to 50 Months



# Get the Technology Into the Hands of Someone That Will commercialize It

- Benefit the Public
- Income For the University and the Inventor/Creator
- Enhance Industrial Relations
- Support Regional Economic Development

# Licensing options

- Rock: To an existing company that adds it to their technology portfolio who may market it.
- Hard Place: To a start up company, typically the inventor, who has 8,000 steps to go through before marketing it.

# How to decide?

- Know the technology
- Know the market
- Know the inventor
- Invest some resources to assist this process

# License to the inventor...

- You should ask yourself...

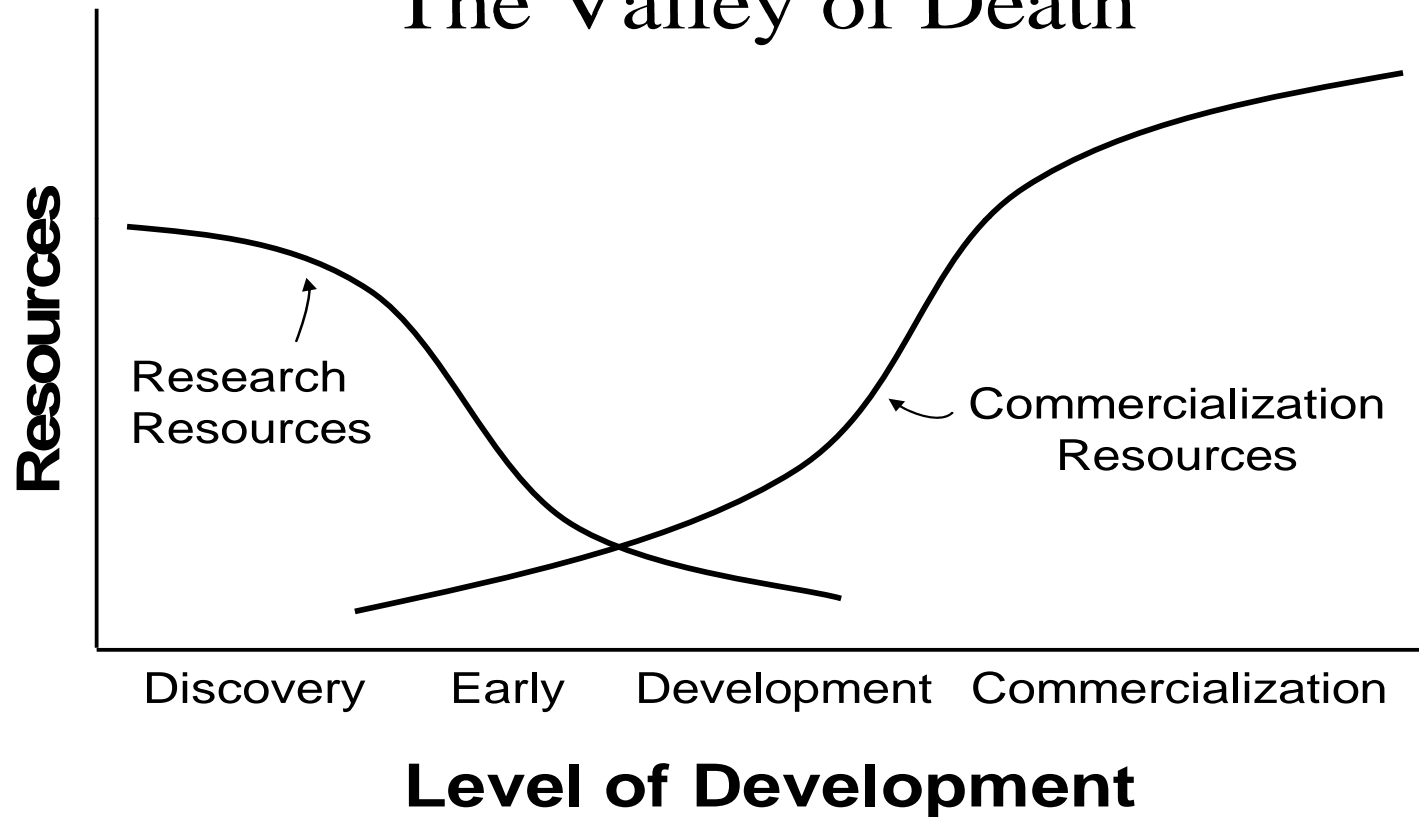
*Did they go into business...*

*...or into science?*

- Is it good for them to leave the lab to learn business?
- Do they know what they don't know?
  - (well.. I am already 90% there.)
- Do they show a taste for learning what they need to know?
- Are the resources there for them to put all the pieces together?
- Are they able to get through the “valley of death”?

# CRITICAL PARTNERS

## The Valley of Death



# License to an established company?

Balance of academic mission and the siren song of massive royalty income

Need to retain academic freedom

Protection of students (retain rights for research, dissertations...)

Cannot restrict ability to publish (but could adjust timing where appropriate)

Ability to continue to work on the project

*Is this an event or the beginning of a relationship?*

# Industry Sponsored Research at USU and Intellectual Property

Utah State University is dedicated to fulfilling its mission by supporting industry research and economic development.

Consequently, increased focus is being placed on developing partnerships with technology-based companies.

# Entering into Contractual Relations with Industrial Partners

Faculty members at USU are not authorized to commit the university to contractual relationships.

To establish an agreement with an industry sponsor the USU Principal Investigator (PI) must submit a proposal to the Sponsored Programs Office (SPO) for review and approval.

A sponsored programs administrator within SPO will then have lead responsibility for negotiation of the terms and conditions of the agreement.

# Intellectual Property

The Bayh-Dole Act of 1980 gives universities the opportunity and responsibility to manage inventions made using federal funding.

Through the Utah Employee Inventions Act, USU also claims the rights to inventions made by university employees.

All intellectual property agreements are therefore negotiated with the Technology Commercialization Office (TCO) which has been given the responsibility for managing USU's technology portfolio.

The objective of the TCO is to make USU technologies available for the public good through licensing and equity-based ventures.

# Inventor Release

All employees of USU are required to assign rights to inventions made at the university, or using university resources, to USU.

This ensures that sponsors can confidently work with the TCO to acquire rights to technologies developed under sponsored programs.

# Intellectual Property Licensing

The TCO has the responsibility for licensing of USU intellectual property to third parties.

In some cases conditions will exist that will require the involvement of the TCO during the initial negotiation of the research agreement.

TCO will assign a licensing officer to conduct negotiations involving intellectual property including inventions, copyrightable materials including software and other IP.

# Faculty Consulting

Work performed by faculty members through independent consulting may result in the intellectual property associated with the work being assigned to the company.

Faculty consulting but using University equipment to perform that work can lead to complex IP rights issues.

Faculty consulting outside of University policy can lead to complex IP rights issues.

IP rights assignment should be determined before the work commences.