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OFFICE OF TECHNOLOGY DEVELOPMENT

"Innovation to Impact" Discussion Series

KNOW-HOW AND NON-PATENTABLE DISCOVERIES

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Managing Director, Office of Technology Development

TOPICS FOR DISCUSSION

1. Not all Intellectual Property is Patentable
2. Protecting your Software
3. Examples of Licensing Non-Patented IP

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Purpose

- We believe innovation from academic research can make a positive difference in the world. The Purpose of OTD is to help OU researchers transform ideas into tangible impact for the betterment of society.

Mission

- The Mission of OTD is to provide the highest level of fiduciary expertise for the perfection, conveyance and commercialization of OU IP.

Vision

- To be recognized as a driving force for OU's economic impact through education, expertise and efficiency.

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INTELLECTUAL PROPERTY

- What is Intellectual Property?
  - Intangible Asset
  - Comprises apprx. 80% of the value of the Fortune 500
- Types of Intellectual Property?
  - Patents
    - Most common in conscious
    - Novel, Non-Obvious, Useful
    - Please see "Publish and Patent without Perishing"

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INTELLECTUAL PROPERTY

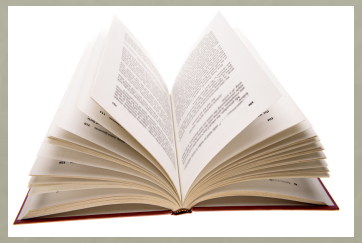
- What is Intellectual Property?
  - Intangible Asset
  - Comprises apprx. 80% of the value of the Fortune 500
- Types of Intellectual Property?
  - Patents
  - Non-Patent IP
    - Copyrights, Trademarks, Know-How
      - Generally less expensive to Protect
      - Lower Threshold to Meet
      - Value more variable

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NOT ALL DISCOVERIES ARE PATENTABLE

Copyrights

- Protect Original Works Authorship
  - Written works
  - Art
  - Music
  - Design





- Attributed at Creation
  - Registration enhances ability for enforcing rights
- How do they differ from Patents?

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NOT ALL DISCOVERIES ARE PATENTABLE

Copyrights

- Protect Original Works Authorship
  - Written works, Art, Music, Design
- Attributed at creation

Copyright 2017

  - Registration enhances ability for enforcing rights



- How do they differ from Patents?

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NOT ALL DISCOVERIES ARE PATENTABLE

Copyrights

- Protect Original Works Authorship
  - Written works, Art, Music, Design
- Infringement





- How do they differ from Patents?

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NOT ALL DISCOVERIES ARE PATENTABLE

Copyrights

- Protect Original Works Authorship
  - Written works, Art, Music, Design
- Attributed at creation
  - Registration enhances ability for enforcing rights
- Infringement is not always straight forward
- How do they differ from Patents?
  - Registered with Library of Congress
  - Longer Lifespan (Typically Lifespan + 70)
  - Value derived from commonality

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NOT ALL DISCOVERIES ARE PATENTABLE

Copyrights

- University Intellectual Property Policy

(B) Policy

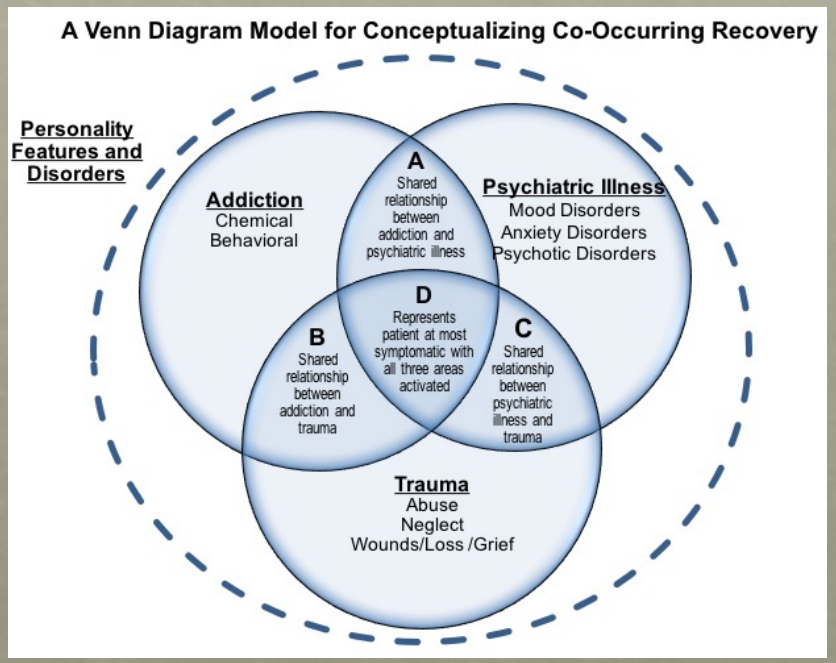
It is the policy of the Board of Regents of the University of Oklahoma that all rights in copyright shall remain with the creator of the work unless the work is created with substantial use of University resources, is specifically assigned or commissioned by the University, is subject to non-University contractual or legal obligations, or is a "work made for hire" as that term is defined by U.S. Copyright Law.

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REAL EXAMPLES OF MARKET VALUE

Licensed Copyright(s)

- Exclusively Licensed to Health Agency
  - Used in treatment plans and materials
  - Consulting agreement for Know-How & Implementation



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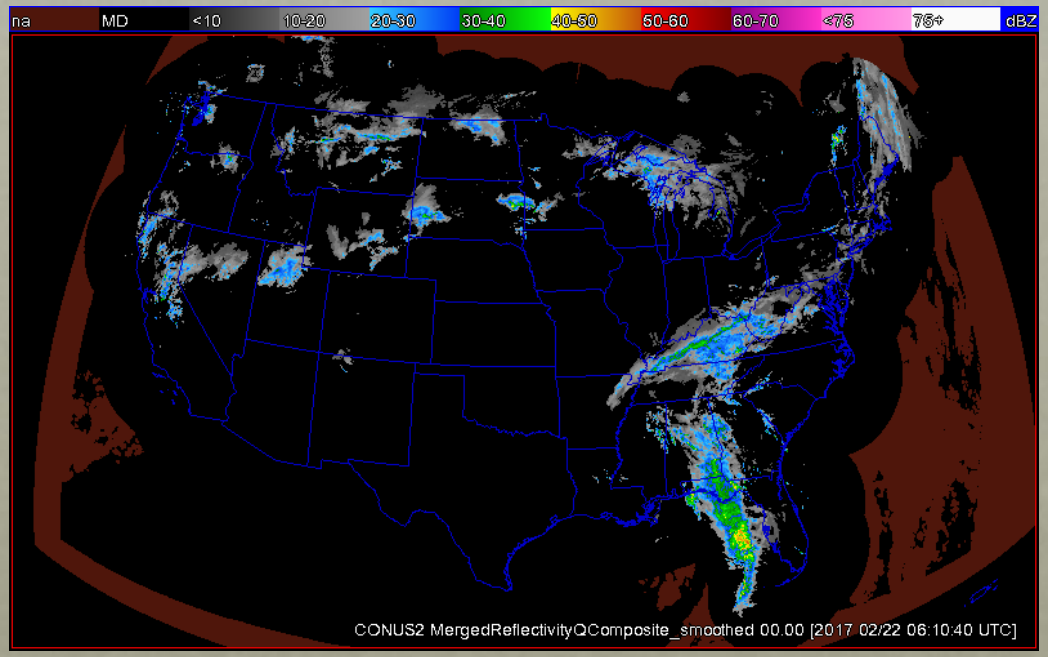
SOFTWARE

- History of Protection
  - Protected under patents for many years
    - First granted April 1968
  - Alice Ruling 2013 by Supreme Court
    - Method patents are ineligible as abstract ideas implemented in a conventional way without embodying any inventive concept
    - Just using computer for fast/better interpretation not patentable
  - Still Patent Eligible
    - Results in an action or improves performance of system
    - If software is a component of overall system, but not the only thing being patented
- Effects of Alice Ruling
  - Tens of Thousands of Patents effectively invalided
  - Millions of Dollars of Value Evaporated
  - Hesitant to File, Hesitant to Challenge
- Mechanism of Protection
  - Copyright
    - Source Code
    - Algorithm

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REAL EXAMPLES OF MARKET VALUE

Licensed Copyright(s)-Software



- WDSS-II
  - Creates Mosaic Radar Image
  - Typically highest revenue from Norman Campus
  - 7 Non-Exclusive licenses-w/ more sublic.

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REAL EXAMPLES OF MARKET VALUE

Licensed Copyright(s)-Applications

- Direct on App Store



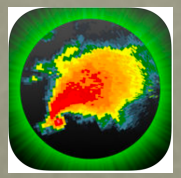
- Licensed with Commercial or Research Partner





- Embedded in Partner's Apps





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NOT ALL DISCOVERIES ARE PATENTABLE

Trademarks

- What do they Protect?
  - Meant to protect consumer confidence
  - Most Common Uses
    - Name
    - Logo
    - Slogan
- Creation and Registration
- How do they differ from Patents?

NIKE®



JUST DO IT.

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NOT ALL DISCOVERIES ARE PATENTABLE

Trademarks

- What do they Protect?
  - Meant to protect consumer confidence
  - Most Common Uses
    - Name, Logo, Slogan
  - Less Common





- Creation and Registration
- How do they differ from Patents?

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NOT ALL DISCOVERIES ARE PATENTABLE

Trademarks

- What do they Protect?
  - Meant to protect consumer confidence
  - Most commonly used in Logo's, Name, Slogan
- Creation and Registration?

TM vs. ®

  - Enhanced protection and geographical areas
- How do they differ from Patents?

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NOT ALL DISCOVERIES ARE PATENTABLE

Trademarks

- What do they Protect?
  - Meant to protect consumer confidence
  - Most commonly used in Logo's, Name, Slogan
- Creation and Registration?
  - Enhanced protection and geographical areas
- How do they differ from Patents?
  - Can not be registered until publicized and used
  - Specific to classifications of goods
  - Complicated but still less costly

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REAL EXAMPLES OF MARKET VALUE

Licensed Copyright & Trademark

- Exclusively Licensed to weather Radar Manufacturer
- Copyright

1) Consider a continuous signal $f(t)$ with its continuous spectra $F(\omega)$.

$$f(t) = \int_{-\infty}^{\infty} F(\omega) e^{j\omega t} d\omega \Leftrightarrow F(\omega) = \int_{-\infty}^{\infty} f(t) e^{-j\omega t} dt$$

2) Find the auto-correlation at lag τ

$$R(\tau) = \int_{-\infty}^{\infty} f^*(t) \cdot f(t+\tau) d\tau = \int_{-\infty}^{\infty} S(\omega) e^{j\omega\tau} d\tau$$

3) Create a sample space with apodization function d, which is the rms value of the discrete window function w and Fourier Transform W

$$g[t] = d \cdot g(t)$$

Make use of the relations

$$(f * g) = \Im(f) \cdot \Im(g)$$

and

$$(d \cdot f * d \cdot g) = (w) \cdot (f * g) = W * [\Im(f) \cdot \Im(g)]$$

Thus,

$$\hat{R}(\tau) = \int_{-\infty}^{\infty} d \cdot f^*(t) \cdot d \cdot f(t+\tau) d\tau = w \cdot R(\tau) = W * \int_{-\infty}^{\infty} S(\omega) e^{j\omega\tau} d\tau$$

- Trademark

CLEAN-AP™

CLUTTER ENVIRONMENT ANALYSIS USING ADAPTIVE PROCESSING

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NOT ALL DISCOVERIES ARE PATENTABLE

Know-How/Trade-Secrets

- Used to Protect
  - Processes
  - Business Intelligence
  - Recipes (Chemical to KFC)
- When and how are they used?
  - Less Common in University, but still inherent in knowledge
  - In order to protect must show affirmative steps to maintain confidentiality
- How do they differ from Patents?
  - Maintain monopoly through no publication

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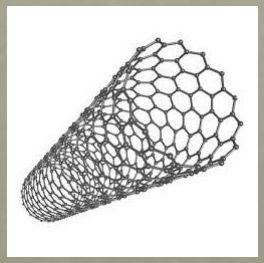
REAL EXAMPLES OF MARKET VALUE

IP Enhanced with Know-How

- Patents for IC system
  - License
  - SRAs
  - Graduate Student
    - Turning point in development



- Manufacturing of SWCNT
  - Licensed Patents
  - Faculty served as CTO of Start-up



- Other Know-How Licensable Items
  - BOM, Detailed Drawings, Build Procedures

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VALUE OF NON-PATENTED IP



- Protection of Asset that may not qualify for Patent
  - Value derived from
    - Prevalence (copyrights/trademarks)
    - Secrecy (know how)
- Diversifying traditional IP portfolio
  - Reduces risk of being invalidated
  - Extends life span of IP value
  - Allows for value built on single product to be expanded

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"INNOVATION TO IMPACT" DISCUSSION SERIES

?'s

NEXT UP IN THE "INNOVATION TO IMPACT" SERIES

The Extraordinary Benefits of the National Science Foundation's Innovation Corps (I-Corps) Program

Presented by Charles Hinton, Jr.

Director NSF I-Corps/Startup Aggieland

March 28, 2017, Norman campus, Memorial Union, 12-1 PM

March 29, 2017, OKC, HSC, BRC 103, 12-1 PM