

# Out of the Gate

## *Nanotechnology Intellectual Property Groundwork*

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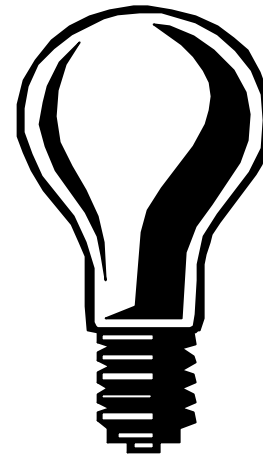
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# What is Intellectual Property?

“Intellectual property” refers to creations of the human mind that are protected by state and federal law in a fashion similar to real property. Both federal and state laws create intellectual property rights that include:

- Patents
- Copyrights
- Trademarks
- Trade Secrets



# U.S. Patent Rights

- A patent is a grant by the United States federal government that entitles the owner (e.g., an individual inventor or company) to **exclude** others from:
  - Making, using, selling, offering to sell or importing into the United States an invention.
  - A domestic patent only provides these exclusive rights in the United States.
  - Right to practice invention NOT automatic, because of others' prior patent rights.
  - Term of a patent is 20 years from the earliest filing date of the application.

# Trade Secrets

- Secret information
  - Reasonable means of protection (visitors/vendors)
  - Commercial advantage
- Independent development/reverse engineering
- Do not coexist with patents
- Employee agreements and NDAs
- Others' secrets - unsolicited ideas

# Trade Secrets vs. Patents

## Trade Secrets

Indefinite duration as long as maintained secret

Automatic Protection

Exclusive Rights Include:  
Reproducing, distributing, displaying, transmitting, and preparing derivations

Protects Against Stealing and Copying of Proprietary, Trade Secret Information

Can be Reverse Engineered

Laws principally vary by State

## Patents

20 Years from earliest Filing Date

Must Formally Apply with USPTO  
(2 - 3 year process)

Exclusive Rights Include:  
Excluding Others from Making, Using, Selling, Offering to Sell, and Importing

Protects Functionality, Operation, Structure

Even if Independently Created Can be Designed Around

Laws principally at Federal level

# Patent Requirements

- A patent is granted to the first inventor of an invention (process/method, machine, article of manufacture, or chemical compound) that is:
  - Useful
  - Novel
  - Nonobvious
  - Sufficiently described
- New and useful improvements are also patentable.
- “Anything under the sun made by man” is patentable, including software and business methods.

# Two Types of Utility Applications

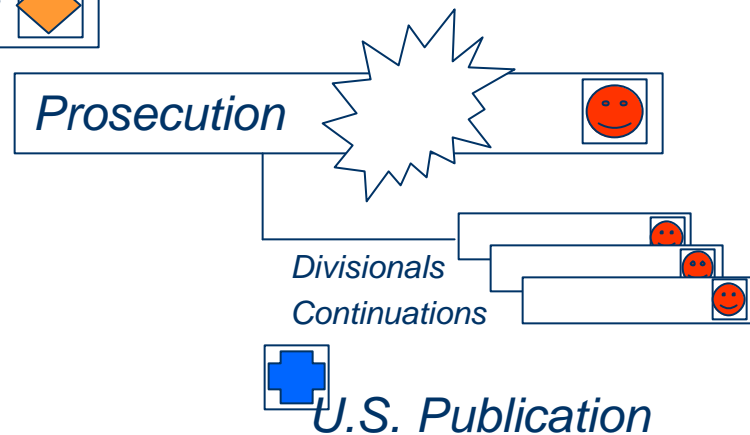
- Provisional
  - Not examined and does not provide exclusive right
  - One-year life
  - Must meet same legal disclosure requirements as provisional to create priority date for non-provisional
- Non-provisional
  - Examined and can provide exclusive right if issued as a patent
  - To obtain priority date of provisional, must file within one year of provisional

# From Idea to Patent

 *Conception*

*Reduction to Practice* 

*Application Development* 



*Foreign Filing*



# From Idea to Patent

- Facts
  - Conceiving of an idea for an invention.
  - Critical date in “first to invent” system.
  - Used to determine who invented first, and therefore who has a right to patent (interference).
- Nano Issues
  - More important than usual. Huge influx of research monies and industry participants jockeying for IP.

# From Idea to Patent

- Nano Opportunities and Approaches
  - Clearly document idea and date of conception with corroboration.
  - Be diligent to avoid loss of rights.
  - Consider filing provisional application.

# From Idea to Patent

- Facts
  - Verification that invention works, either actual or constructive.
- Nano Issues
  - What does it take to confirm that invention has been reduced to practice?
  - Is the science predictable? What is the tradeoff between predictability and obviousness?
- Nano Opportunities and Approaches
  - Error on the side of explaining more, rather than less.
  - Provide detailed testing and simulation results, when appropriate.



# From Idea to Patent

- Facts
  - Interactive process between inventor(s) and patent attorney to describe and claim the invention.
    - Text and figures must enable one skilled in the art to make and use invention without undue experimentation.
    - Must set forth best mode for carrying-out the claims.
- Nano Issues
  - Ideas are incomplete, generally.
  - Managing the patent attorney in a “new technology.”
  - Breadth and number of claims.



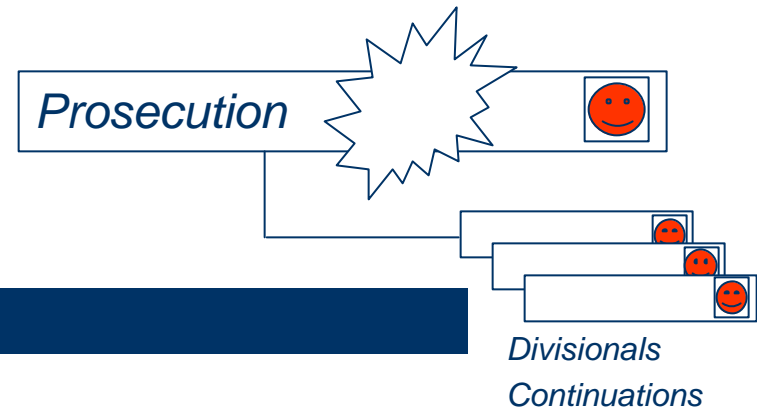
# From Idea to Patent

- Nano Opportunities and Approaches
  - Invest the time and effort to educate your patent attorney.
  - Inventors must take time to carefully review applications.
  - Generally, many claims with varying breadth.

# Claim Opportunities

- New nano scale devices and materials
- New methods of manufacturing
- New nano-enabled functionality and methods of use
- Improvements of devices, materials and methods
- Integration of new or improved nano materials into micro or macro systems

# From Idea to Patent



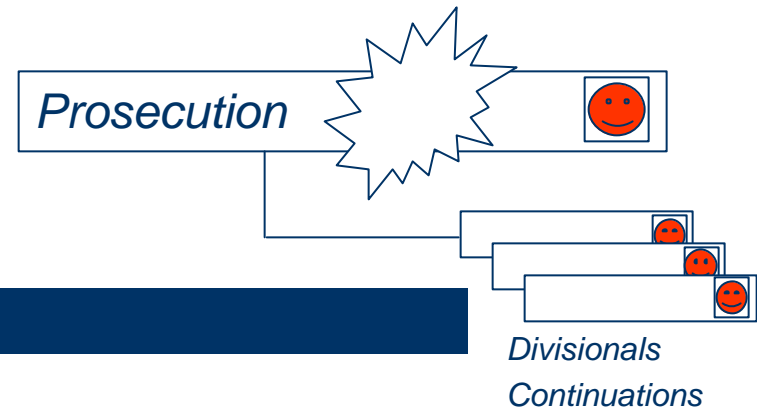
- Facts

- Interactive process between patent office and inventor to agree on allowable claims.
- Process can take multiple years. Continuations and divisionals even longer.

- Nano Issues

- Business as usual at the USPTO.
- Keeping tabs on your invention (ownership, inventorship)
- Knowing what's important to claim.
- Loss of rights (one-year domestic grace period).

# From Idea to Patent



- Nano Opportunities and Approaches
  - Review of published applications.
  - First to invent battles (“interferences”).
  - Leverage PTO process to optimize claim coverage.



# Duty of Disclosure

- Duty on applicants, attorneys and anyone substantively involved in the patent application process to disclose all “material” information that they are aware of to the Patent Office.
- No duty to search
- Duty continues until issuance
- Failure to comply may render patent unenforceable.

# Ownership

- Employment Agreements.
  - Past
  - Present
- Assignment Agreements.
- Technology Transfer Issues.
- “Know what you own. Own what you know.”