

# **Career Alternatives for Physicists: Patent Law**

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# Why a Career in Patent Law?

## **Application of your scientific knowledge**

Address real-world applications of the academic questions that are interesting and important to scientists. You do not leave science behind.

## **Working with cutting edge technology**

New technology not previously disclosed.

## **Variety of work**

Exposure to a broader range of science and technology than a research career.

## **Gaining legal knowledge**

Analyze scientific facts in a legal framework.

## Career Alternative – Intellectual Property (IP)

### Types of IP include:

**Patents** – a grant that gives an inventor the sole right to make, use, and sell an invention for a set period of time.

**Copyrights** – the sole right to reproduce, publish, sell, or distribute a literary, musical, or artistic work.

**Trademarks** – a distinctive name, symbol, motto, or design that identifies a company or its products and services, and prevents others from using similar marks.

**Trade secrets** – information that companies keep secret to give an advantage over their competitors.

## What is a Patent?

**A United States patent gives inventors the right to exclude others from making, using, offering for sale, or selling their invention throughout the United States or importing their invention into the United States for a limited time.**

**In other words, the patent holder enjoys a monopoly of the invention for a specified period (20 years from filing of the application).**

## **Total Patent Applications to the US Patent Office**

<b>1963 – 90,982</b>	<b>1998 – 260,889</b>
<b>1973 – 109,662</b>	<b>2003 – 336,043</b>
<b>1983 – 112,040</b>	<b>2008 – 485,312</b>
<b>1993 – 188,739</b>	<b>2011 – 535,188</b>

**For each year between 1996-2008, the number of patent applications to the US Patent Office (USPTO) increased over the prior year.**

Source: “U.S. Patent Statistics Chart – Calendar Years 1963-2011”

[http://www.uspto.gov/web/offices/ac/ido/oeip/taf/data/us\\_stat.htm](http://www.uspto.gov/web/offices/ac/ido/oeip/taf/data/us_stat.htm)

## **Top 10 companies-US patents issued in 2011**

1. IBM: 6180	6. Microsoft: 2311
2. Samsung: 4894	7. Sony: 2286
3. Canon: 2821	8. Seiko Epson: 1533
4. Panasonic: 2559	9. Hon Hai: 1485
5. Toshiba: 2483	10. Hitachi: 1424

Source: [http://ificlaims.com/index.php?page=misc\\_Top\\_50\\_2011](http://ificlaims.com/index.php?page=misc_Top_50_2011)

## Value of Patents

- Licensing
- Protecting Market Position
- Asset
- Attractive Investment

### Notes:

- IBM currently holds over 40,000 U.S. patents.
- IBM generates more than **\$1 Billion** each year in technology licensing revenue.

Source: IFI Patent Intelligence – 2007 Report

<http://windowsitpro.com/article/articleid/98024/ibm-grabs-top-spot-in-patent-race.html>

# Patent Prosecution and Patent Litigation

**Patent Prosecution** – the process of obtaining a patent from the USPTO. The procedures for patent prosecution are in the Manual of Patent Examining Procedure (MPEP).

**Patent Litigation** – bringing a lawsuit against someone who manufactures or uses an invention without obtaining permission of the owner of the patent (i.e. patent infringement).

A patent is infringed or violated when each and every element recited in a claim has identical correspondence in the allegedly infringing device or process.

## Patent Agent and Patent Attorney

### Patent Agent

someone who is admitted to practice before the US Patent Office, but who is not an attorney.

### Patent Attorney

someone who is admitted to practice before the US Patent Office, and who is also an attorney.

To become admitted to practice before the US Patent Office, one must pass the Patent Bar Exam.



## **The Patent Bar Exam**

**One day, 6 hours (3 hours AM / 3 hours PM)**

**100 multiple choice questions (50 AM / 50 PM)**

**Need 70% correct in order to pass**

**All answers are found in the MPEP (Manual of Patent  
Examining Procedure)**

**<http://www.uspto.gov/web/offices/pac/mpep/index.htm>**

## Requirements to take the Patent Bar Exam

**A) Bachelor's Degree in a Recognized Technical Subject as defined by the USPTO**

**OR**

**B) Bachelor's Degree in Another Subject, including sufficient credit hours in physics, chemistry, and/or biology, as defined by the USPTO**

**OR**

**C) Practical Engineering or Scientific Experience by passing a Fundamentals of Engineering test**

**AND**

**D) The exam fee.**

<http://www.uspto.gov/web/offices/dcom/olia/oed/grb.pdf>

## Scientific Advisor

Scientific advisors at law firms assist firm attorneys in due diligence, litigation, opinions, and other tasks.

Attorneys rely on scientific advisors to understand the technology.

Most law firms require their scientific advisors to hold advanced science degrees, e.g., Ph.D.

# Technology Transfer Officer

- Many major universities have a technology transfer office.
- Technology transfer office protects a university's intellectual property and works with counsel and law firms to develop patents, search for prior patents, and some freedom-to-operate searching.
- Technology transfer officer acts as a liaison or translator between scientists and lawyers.
- Technology transfer officer may market university's intellectual property to private industry for further development and commercialization.

# Patent Examiner

## U.S. Patent and Trademark Office

Patent Examiners review patent applications to determine if they comply with basic rules and legal requirements.

- Research the subject matter claimed in patent applications.
- Communicate findings on the patentability of applications to inventors or patent practitioners.

### Requirements:

- U.S. citizen
- 4-year college degree in engineering or science
- Live/work in Washington, D.C. metropolitan area

<http://www.usptocareers.gov>

# What it takes to be a good patent lawyer/agent

- **Good communications skills**
- **Strong analytical skills**
- **Organized and Detail-oriented**
- **Broad science background**

# Typical work day of a patent lawyer/agent

- Review docket
- Communicate with inventors/clients
- Communicate with USPTO Examiners
- Draft patent applications
- Draft response to office actions
- Review prior art references

# Questions?

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