

Searching the Literature: Library and Computer Resources

Take Note! You will need a PC formatted disk for this exercise—don't forget to bring one!

Goals of this Activity

- To become familiar with using the resources available through the GRCC library and other online sources
- To learn how to find information using electronic databases
- To learn how to find high quality references for your issues project, term papers, Fly Lab, and for your general interest

Introduction

Six hours in the library may save the researcher six months in the lab. There are many places to find scientific information: Encyclopedias, books, magazines, scientific journals, Indexes (e.g. *ProQuest*, *Health Index Center*, *Voyager*, and others), and the Internet, to name a few. However, not all sources are created equally—some are more reliable than others! The most reliable information comes from **scientific journals**. There are 1000's of scientific journals in the world that deal with the many fields of science. Journals publish the results of original scientific research. When scientists believe they have something of value to communicate to other scientists, they submit their work for publication. Peers that are associated with a particular society will then review it. Societies usually consist of scientists associated with universities and colleges around the world. If the research is judged to be of high quality and of value, it will be published in the society's journal. (Note: The Audubon Society and the National Geographic Society are *not* scientific societies; The *Wall Street Journal* is not a scientific journal!)

Although much of the information in a scientific journal may be quite technical, you should be able to glean some information from it. After journals, the next best source are popular science magazines (e.g. *Scientific American*, *Science News*, *American Scientist*, *Discover*, etc.). Since these periodicals are devoted to science, they tend to be better sources of information than general magazines such as *Time* or *Newsweek*. General popular references such as newspapers and general magazines may sometimes be helpful but don't limit yourself to these since the information *may* be of unreliable quality and/or incomplete.

On the next page is a list of topics for which there are many issues. But what's an issue?

“An issue is a question on which two *informed* people disagree”

Select an interesting issue that involves the human immune system that you will use as you search for information. **Obtain approval from your instructor before you begin to research the issue/topic your group selects!**

Possible Issues....

1. Can the mind-immune system connection be enhanced to increase human health and longevity? To decrease the incidence of cancer?
2. What causes autoimmune diseases? (e.g., multiple sclerosis, rheumatoid arthritis, Crohn's disease, lupus, Diabetes Mellitus, Myasthenia Gravis, Graves' Disease , Addison's Disease, etc.)
3. Are there chemicals in our food and/or environment that are implicated in depressing the human immune system?
4. Are vaccines safe? Should parents have their children vaccinated? Should children be vaccinated against chickenpox? Do the risks outweigh the benefits?
5. Is it possible to develop a vaccine against periodontal disease (i.e. cavities)?
6. Is it possible to develop a safe vaccine against HIV?
7. Is it possible to develop edible vaccines?
8. What is the cause of allergies? Why do they come and go? Why do some people have allergies and others do not?
9. What is the cause of asthma and why is the incidence of asthma increasing in the U.S.?
10. What can be done to decrease the incidence of graft vs. host disease? (This is where the graft attacks the host, leading to serious complications during organ transplantation.)
11. What are the hopes of gene therapy curing genetic immune diseases such as SCIDS?
12. Should Xenotransplantation (e.g. use of hearts from genetically modified pigs) be banned because of the potential health risks to society?
13. Should Xenotransplantation (e.g. use of hearts from genetically modified pigs) be banned because of the potential health risks to society?

These are just a few of many issues that are associated with the immune system. I'm sure you can think of more. Remember: **Obtain approval from your instructor before you begin to research the issue/topic your group wishes to work on!!**

Procedure

The first thing to do: Create a Microsoft *Word* document

You will cut and paste information into a *Word* document. Assignment due date: _____

1. Open *Microsoft Word* and create the following document.
2. Type in the upper right-hand corner of the page your name, class title, lab section and today's date.
3. Using bold font, give the page the following title: **Searching the Literature: Library and Computer Resources Available at GRCC.**
4. About three lines after the title indicate clearly in bold print the issue or topic you will research that you will be researching. e.g. **Issue Researched: Are childhood vaccines safe?**
5. Use bold print to create the following three sectional headings:
Part 1: Five Articles related to _____ (indicate the topic that you have selected)
Part 2: One book related to _____ (indicate the topic that you have selected)
Part 3: Information found at Online Mendelian Inheritance in Man
6. IMPORTANT!! Save the document to a disk by selecting "Save As" under the file menu. If using the computers in STC-21 direct the computer to save to your disk in "drive A" by typing "A:" at the start of your file name. Warning! Computers sometimes freeze-up for no apparent reason. Save your work often!

Part 1: Find five articles related to your topic

Introduction

There are several useful databases to periodicals available for your use. Some databases require the use of a computer in the Information Commons upstairs in the Holman Library (e.g. ***InfoTrac Health Index***, an excellent database for our purposes), others are accessible from any campus computer connected to the GRCC network (e.g. *ProQuest Direct*)—however, you may need your student identification number to log on! The one we will have you use is ***ProQuest Direct***.

Procedure

1. **Our goal here is to find five articles relevant to the topic you have selected.** One of the articles should be from a scientific journal (See the introduction above concerning the quality of periodicals!). Follow the procedure below to get to the *ProQuest* search engine to find five quality articles and then cut and paste the abstract of each article into your *Word* document. Cite each article by following the [guidelines for citing references on pages 7 & 8](#).

Here's an example of a properly cited article and its abstract. Note that the name of the periodical is in *italics*.

Part 1. Five articles related to animal cloning

Article #1:

Vogel, G. 2001. Cloned Gaur a Short-lived Success. *Science*. 291: 409

Abstract:

The first clone of an endangered species died last week, 2 days after its birth on Jan 8, 2001. The baby gaur seemed healthy at birth, but developed a typically fatal bacterial infection that can plague young calves.

2. **How to find articles in *ProQuest*:**

- a. **How to Get to ProQuest:** Start Netscape Navigator or Microsoft Internet Explorer and go to Holman Library's Research Data Base Links at <http://www.grcc.ctc.edu/library/restools/dblist-brief.shtml>. You should find ProQuest Direct on the list of databases (it's the second one from the top). Now click on [Search ProQuest Direct](#).
 - i. **Another way to get to ProQuest:** Go to the Holman Library's home page at <http://www.grcc.ctc.edu/library/>. Under "Research Tools" click on the "Databases" link. You should find ProQuest Direct on the list of databases (it's the second one from the top). Now click on [Search ProQuest Direct](#).
 - b. You are now on the Select Database screen in ProQuest. If you want to restrict your search to Peer Reviewed Articles (i.e. articles in scientific journals), then before you type in your search terms, find where it says "Peer Reviewed" on the screen, and check the box next to this. This will limit your search to Peer Reviewed articles.
 - c. Type your search criteria in the search box and click the "Search" button.
3. **Find five articles related to your topic, one of which must be from a scientific journal.** You probably will want to search using key words. Once you find a list of articles you can often see an abstract (a short summary) of the article or, in some cases, the entire article can be downloaded. Sometimes there is the option to have the article e-mailed to you, but the graphics will be lost.
4. **Having problems finding suitable articles?** Try searching one or more of the web sites listed on the last page of this handout or see the "online resources" section at the Biol 194 class website.
5. Don't forget to cite within your *Word* document each of your articles correctly by following the [guidelines for citing references on pages 6-7](#). Also, cut and paste the abstract for each article into your *Word* document. One of the articles must be from a scientific journal.

Part 2: Find one book related to your topic

Now find a book that is related to your topic by searching the GRCC Holman Library Online Catalog and/or online catalogs of nearby county, college, or university libraries. If you can't find a book that's related to your topic at these sites, then try *Proquest* or *amazon.com*.

Procedure

1. To find books in Holman Library:
 - a. Start Netscape Navigator or Microsoft Internet Explorer and go to Holman Library's home page at <http://www.grcc.ctc.edu/library/>
 - b. Click on the "Online Catalog" link.
 - c. Click on the "Basic Search" link.
 - d. Type your search in the **Search For:** box, select "Keyword" in the **Search In:** box, and then click the "Search" button.

2. Unable to find a relevant book in the Holman Library? Try searching at other libraries in the area by following one or more of the links at <http://www.grcc.ctc.edu/library/restools/libs.shtml>
3. If you are not successful finding a book related to your topic in the Holman Library or the other libraries in the area, then try using *ProQuest* and restrict your search to books.
4. Still having problems finding a book related to your topic? Try searching amazon.com.
5. If possible, cut and paste into your *Word* document a short summary, description, abstract, etc. about a book related to your topic.
6. When citing the book you found within your *Word* document be sure to follow the [guidelines on page 7](#). Here's an example of the correct way to do part 2. Note that the title of the book is *italicized*.

Part 2: One book related to the genetic modification of food crops

Belinda Martineau. 2001. *First Fruit : The Creation of the Flavr Savr Tomato and the Birth of Genetically Engineered Food*, April 2001. McGraw-Hill, New York, 224.

Book Info.

An account of the first biotech, or genetically engineered food, the Flavr Savr tomato. Discusses the scientific process behind the creation of genetically engineered foods, with a perspective of one who has, at different times, been on each side of the debate for and against biotech foods. DLC: Transgenic plants.

Part 3: Explore *Online Mendelian Inheritance in Man*

Introduction

The goal of this part is to introduce you to *Online Mendelian Inheritance in Man* (OMIM), the world's most comprehensive source of information on the human genome. OMIM is a database that contains summaries about every human gene so far investigated. It is meant for professional geneticists, so it can be tough going at times. You can obtain the official gene name, the official abbreviation, the gene map locus (where the gene is located on a certain chromosome), and information about the gene. Moreover, you can click on buttons that will give you articles in *Medline* (a database for medically related journals), a list of genes near the one you are interested in (a gene map), DNA sequences (DNA), and other information. Another useful site is *Genbank* at <http://www.ncbi.nlm.nih.gov/>, but we'll have you use OMIM for this assignment.

Procedure

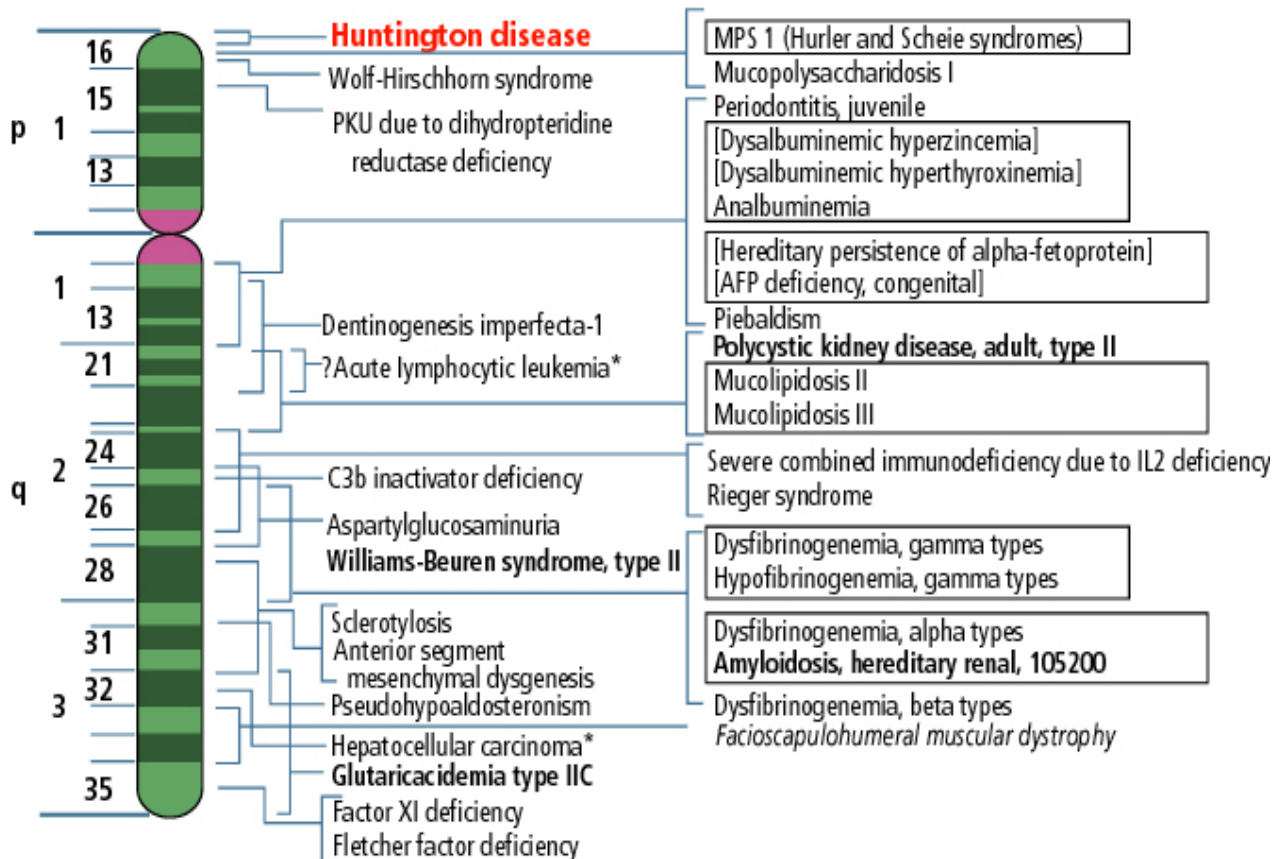
1. Select a human trait or disease that has a genetic component and search for information about that disease or trait. If the topic you selected for parts 1 and 2, above, isn't a human trait or doesn't have a genetic component, then select a human trait or genetic disease of your choice to find information about.
2. Open a web browser, then go to Online Mendelian Inheritance in Man at <http://www.ncbi.nlm.nih.gov/Omim/>. Under "Browsing OMIM," select "Search the OMIM Database."
3. Enter the keywords in the space provided and then click "Submit Search." **E.g.** If I wanted to see if there is a genetic component to substance abuse, I might try using "substance abuse" as the key words.
4. Read down the list of items the search returns and select one or more that you want to learn more about by clicking on the blue underlined accession number. **E.g.** three items appear from my search for "substance abuse." The OPIOID RECEPTOR, MU-1; OPRM1 article seems promising, so select it.

5. Enter the following information into your *Word* document:

- **The official gene name**
- **One short interesting fact about the gene**
- **The gene map locus** (i.e. the location of the gene)

For example: The gene responsible for Huntington Disease has a gene locus of **4p16.3**. This means this gene is on the short arm (p = short arm, q = long arm) of human chromosome number 4 (the first number is the chromosome number), about 16.3 map units away from the centromere, the junction of the short and long arms. Continuing the example from above, the Opioid Receptor Gene Map Locus: 6q24-q25. i.e. the gene is located on the long arm of chromosome 6, 24 to 25 map units from the centromere.

Chromosome 4



YGA 98-1455

Guidelines for Citing References

The format for citing references varies slightly from one scientific publication to another. Every scientific publication provides an “Instructions to Authors” that describes the format for the References section and all other requirements for papers they will accept. When citing references in this class use the following formats to ensure that your citations are complete.

Citing Journal and Magazine Articles

- **Format**

Author(s). Publication year. Article title. *Journal title* volume: pages.

- **Examples**

Smith, D.C. and J. Van Buskirk. 1995. Phenotypic design, plasticity and ecological performance in two tadpole species. *American Naturalist* 145: 211-233.

Ahlberg, P.E. 1990. Glimpsing the hidden majority. *Nature* 344: 23.

Epel, D. and R. Steinhardt. 1974. Activation of sea-urchin eggs by a calcium ionophore. *Proc. Natl. Acad. Sci. (USA)* 71: 1915-1919.

Citing Sites on the Internet

Often electronic sources are a challenge to cite because they often lack critical information. You should do your best to provide as much of the following as possible. The complete web address should be presented so that *anyone* else could easily visit the same website.

Attempt to include the following elements (not all elements appear on all Web pages):

1. author(s) (last name, first initial)
2. date created or updated
3. title of the page
4. title of the complete web site (if different from the page)
5. URL (full web address)
6. the date accessed.

- **Format**

Author's last name, First initial. (date created or updated). *Title of the page*. Title of the complete site. [Online]. Available: <http://full.web.address>. [Date accessed].

- **Example**

Hammett, P. (1997). *Evaluating web resources*. Ruben Salazar Library, Sonoma State University. [Online]. Available: <http://libweb.sonoma.edu/Resources/eval.html>. [March 29, 1997].

Citing Books

- **Format**

Author(s). Publication year. *Book Title*, edition if known. Publisher, Place of publication, number of pages.

- **Example**

Purves, W.K., G.H. Orians and H.C. Heller. 1995. *Life: The Science of Biology*, 4th edition. Sinauer Associates, Inc., Sunderland, MA, 1195 pp.

Citing Book Chapters

- **Format**
Author(s). Publication year. Chapter title. In: *Book title* (Author(s)/editors, first name first)
Place of publication, pages.
- **Example**
Jones, C.G. and J.S. Coleman. 1991. Plant stress and insect herbivory:
Toward an integrated perspective. In: *Responses of Plants to Multiple Stresses* (H.A.
Mooney,
W.E. Winner & E.J. Pell, editors), Academic Press, San Diego, pp. 249-280.

Citing Newspaper Articles

- **Format**
Author(s). Date (Year/Month/Day). Article title. *Newspaper title* Section: Page: Column.
- **Example**
Bishop, J. E. 1982 November 4. Do flies spread ills or is that claim merely a bugaboo? *The Wall Street Journal* 1: 1: 4.

Williams, M. 1997 January 5. Teaching the net. *Seattle Times* C: 1: 2.

Citing Newspaper Articles with no Identifiable Author

- **Format**
Anonymous. Date (Year/Month/Day). Article title. *Newspaper title* Section: page: column.
- **Example**
Anonymous. 1977 September 6. Puffin, a rare seabird, returns to where many were
killed. *The New York Times* 3:28:1.

Citing a Video

- **Format**
Title of video (videocassette). editor or director. Producer's name, producer. [Location of
Production]: Organization responsible for production, Year.
- **Example**
New horizons in esthetic dentistry (videocassette). Wood, R. M., editor. Visualeyes
Productions, producer. [Chicago] : Chicago Dental Society, 1989.

Citing a Government report

- **Format**
Author/Agency (if no author). Publication year. Title. Publisher, Place of publication, number
of pages.
- **Example**
Mitchell, R.G., N.E. Johnson and K.H. Wright. 1974. Susceptibility of 10 spruce species and
hybrids to the white pine weevil (= Sitka spruce weevil) in the Pacific Northwest. PNW-225.
U.S. Department of Agriculture Forest Service, Washington, D.C., 8 pp.

Excellent Biology Web Sites

- <http://google.com> (One of the best search engines around!)
- <http://www.sciam.com/> (Scientific American magazine: An extremely high quality science magazine containing articles written by experts in their field of study—One of my favorites)
- <http://www.newscientist.com> (A high quality science magazine with a biological sciences focus—Another one of my favorites!)
- <http://www.scicentral.com/> (An excellent resource for **any** area of science and technology—one of my favorites—I receive weekly notices of recent papers that are of interest to me—this service is free.)
- <http://www.sciencenews.com> (A high quality science magazine with a biological sciences focus)
- <http://ublib.buffalo.edu/libraries/units/sel/collections/ejournal2.html>
(Links to electronic versions of over 900 journals on the Web, covering all areas of science and technology. The content of these electronic journals varies, from full text to table of contents for the majority of journals.)
- <http://biochemlinks.com/bclinks/bclinks.cfm> (A guide with links to some of the best biological sciences and chemistry sites on the web-- including some journals and science related magazines; Includes free science related clip art and links to free clip art)
- <http://www.nejm.org/content/index.asp> (New England Journal of Medicine—one of the world’s premier medical journals)
- <http://www.ncbi.nlm.nih.gov/Omim/> (*Online Mendelian Inheritance in Man*: OMIN is a database that contains summaries about every human gene so far investigated. You can obtain the official gene name, the official abbreviation, the gene map locus (where the gene is located on a certain chromosome), and information about the gene. Moreover, you can click on buttons that will give you articles in *Medline* (a database for medically related journals), a list of genes near the one you are interested in (a gene map), DNA sequences (DNA), and other information. Another useful site is *Genbank* at <http://www.ncbi.nlm.nih.gov/>)
- <http://www.nlm.nih.gov/> (Medline: A database of the National Library of Medicine, part of the National Institutes of Health (NIH). This the largest collection of medical information in the world, containing more than 9 million references from medical journals from all over the world.
- <http://cancer.med.upenn.edu/> (Oncolink: the first of its kind on the Internet—an excellent site that disseminates cutting edge information relevant to the field of oncology (cancer research). Aims to educate health care personnel, patients, and other interested parties.)
- <http://www.quackwatch.com/> (“A Guide to Health Fraud, Quackery, and Intelligent Decisions;” An interesting site that helps one to distinguish between legitimate healthcare treatments and quackery—The physician responsible for this site has written many books and scientific papers over the years. His ideas are very mainstream—perhaps too mainstream? Some of the views expressed may not be totally objective. At times he has quite harsh comments concerning “alternative medicine.”)
- <http://www.audubon.org/> (Audubon is a high quality magazine that deals with environmental issues and wildlife conservation)
- <http://www.biomednet.com/hmsbeagle> (This is one of my favorites—A weekly publication that covers many of the more important advances in the biological sciences. Requires membership—which is free as is an email subscription) → home page of the H.M.S. beagle: <http://www.biomednet.com/home>
- <http://genetics.nature.com/> (a journal produced by Nature... Gives you access to the contents, but you must pay to see the text of the articles—Available for free in the libraries of most research universities)
- <http://www.nature.com/> (Nature is a very prestigious scientific journal. This site gives you access to the contents. Although some parts of the site are free, you must pay to see the text of the articles—but they are available for free in the libraries of most research universities)