Welcome

The Library and You - Searching for Success!

Summer Mentorship 2020

Dana Kuszelewski and Sabrina Macklai
My name is Dana Kuszelewski and my colleague is Sabrina Macklai. I am a reference specialist here at Gerstein have been involved in the summer mentorship programme on behalf of the library for many years and every year I am as excited to welcome you here. Sabrina is an intern here at Gerstein pursuing a Master of Information and then will be moving on to law school. Sabrina is a great example of the changing role in librarianship which is no longer limited to just traditional libraries but has an established role in other professions!
Inclusion, diversity and equity statement

The University of Toronto Libraries (UTL) is committed to creating a safe, welcoming, and inclusive environment that supports learning, teaching, research and work. This commitment extends to everyone regardless of race, ethnic group, nationality, socioeconomic status, sex, gender identity, gender expression, sexual orientation, ability, language, religious affiliation, or age. The fulfillment of the library’s purpose depends upon an environment of acceptance and mutual respect. Everyone should be able to work, live, teach and learn in a University free from discrimination and harassment.

Before we begin, we would like to recognize the changing role and environment of libraries and how the University of Toronto Library adapts their strategic plan to the academic, research and social environment. This is a living document which grows and changes to meet the needs of the day.
Land acknowledgements

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many Indigenous people from across Turtle Island and we are grateful to have the opportunity to work on this land.

We also recognize and welcome you to the land on which the university itself operates.
So why are you here? We looked at the SMP program page and highlighted a few of the anticipated goals of this program. In addition, our role here today is to provide you with searching tools that will help you in the future. Notice I did not say researching tools. What we will show you here today are usable and sustainable skills to find information on any topic, whether academic or for your own personal interest and get the very best results.
How many libraries?! Where to start? Here!!!

The University of Toronto Libraries system is the largest academic library system in Canada consisting of 47 libraries in addition to department libraries and resource centres and the libraries at University of Toronto at Mississauga and at Scarborough.

The downtown campus has so many libraries and library collections such as Robarts, a humanities and sciences library. Some of the library collection specialize in literature, religious studies, gender studies and of course health sciences and medicine.
Welcome to the Gerstein Library homepage!

https://gerstein.library.utoronto.ca/
Handbooks, Encyclopedias, Dictionaries and Books

When you walk into any library, there is always a section dedicated to handbooks, dictionaries and encyclopedias. These will provide you with great background and historical information and usually include references. And we now have a number of them online. Look these up by title in our library catalogue.

Books come in print and e-format now and while they can have a publication date of 2020 or be advertised as “just out” the information is already stale dated. Consider how long it takes to write a book, go through the editorial process, final edits and then publication!
Journals - Periodicals, Magazines and Newspapers

There are hundreds of thousands of journals. Some for literature, science, chemistry, art, medicine, a series of “how to books” and sports magazines. And then general interest ones like Time and MacLeans. How do we find what we need? We use an index or a database, to look up subjects that point us to which articles are found in which journals much like the table of contents for a book.

We can compare SUMMON to an index. If we look up a subject the search results will give us titles of articles, books and journals.

In order to use these resources you will require your TCard number and PIN. You can rely on the results because they are all linked to the U of T Library collection.
And, what else do we have???

And in support of research, Library Guides have been created by librarians with the assistance of reference staff and interns like Sabrina to help you organize your search in a discipline, or sometimes on a more specific topic. The heavily used ones are found on our library home page. There are hundreds of library guides on everything from how to search and on topics like Covid 19 and rehabilitation. And let's not forget our summer mentorship guide!

The Library has also created a number of self help videos found at the bottom of the page.
In order to use any of our e-resources which include databases, e-articles and e-books you will need to log into our library. You were all provided with a TCard number and 4 digit PIN.
Authenticate here

Enter all of the numbers including the 2 zeros at the end of the string starting with 21761.... Then enter your PIN. You are now “authenticated” and once you are “in” it will keep you logged in until you close the browser.
So we made it to our first demo! In this demo, I’ll show you how to conduct background searches. These searches are good when you are just starting off with a topic and still deciding where to focus your research. Searching for background information can help increase your knowledge of the topic more broadly, and then you can choose what to specialize in. For your projects, you’re going to be assigned a topic on rehabilitation sciences or COVID-19. So let’s say you are looking for information related to COVID-19. You need to conduct a background search. So let’s start with the Gerstein homepage. As Dana mentioned, you can perform a simple Summon Search which will retrieve articles, books, and journals related to your topic. So simply searching “COVID-19”, I retrieve many results. But where do I begin? Well, your topic is COVID-19 so let’s see if there is a research guide on it. There is! This is a great place to start as it contains resources that are curated by librarians and subject experts. We can access this guide on the Gerstein homepage. To access all our research guides, mouse over Research, click on Research Guides, and now you can browse guides by subject.
So let’s say that through your initial search, you found a really good article that is about your topic and you want to learn more! A good tip is backtracking references. You can look at the references from the introduction, background, or objectives section and go and read those references. This can help you understand what the authors of that article are referring to. Review articles are particularly good sources of information for this. These are articles that summarize the scholarly research on a specific topic. Therefore, the references they use often cover things like the main people working in the field, recent major advances and discoveries, gaps in the research, current debates, and ideas of where the field may go next. This is all important to know for your background research! Review articles also often cite seminal papers. These are papers that have a great impact on a field and are widely cited. For example, you may be familiar with Charles Darwin, well known for his theory of evolution. His book, On the Origin of Species, is considered a seminal work as it drastically changed modern science by introducing a new scientific theory which we still use today. Most articles will specify if they are a review article in the title and/or abstract of the article, but you can also limit your search to review articles. We’ll show you how to do this later in the presentation.

Keep in mind that the references authors cite are not always the most simplified or
easiest to understand. While they are good for explaining in more detail a specific concept that an author has mentioned, they are not necessarily the best place to get background information if you’re just starting out, since they’re geared towards a more advanced audience.
Other sources of information (grey literature)

- Check out our Grey Literature Research Guide:
  https://guides.library.utoronto.ca/c.php?g=577919&p=4123572
- Searching the Web - Google and Google Scholar
  - These are search engines and do not capture all current research on your topic
- Websites
  - Be very careful -- are these websites authentic and reliable?
  - Government agencies (ex. Ministry of Health), reputable sites (like Mayo Clinic)
- Grey literature is information written for a public audience (can include definitions and easy to understand overviews of topics)

Instead, another important place to look for information is grey literature. This refers to any source of information that is not contained in a scholarly book, article, or journal. To get a complete list of grey literature sources, I highly recommend you check out our grey literature research guide which is linked in this presentation. In general, the best way to access grey literature is through searching the web, which includes Google and Google Scholar searches for your topic. Do keep in mind that these are search engines and so they will not capture all current research on your topic. You will still need to go into other sources of information like books, articles, and journals - but Google can be a good starting point for your research, and is especially helpful when you are looking for definitions or a very broad and simplified overview of your topic. When accessing websites, it’s important to be critical of what you read. Always question whether the website are authentic and reliable. Websites that have a good reputation like Mayo Clinic or are from government agencies like the Ministry of Health can be considered good websites to include in your search.
Given our current situation where there is a bombardment of information at your fingertips, how can we spot fake news and tell if a website is providing information that is trustworthy? Well, there are many ways to evaluate information. One test that we will use is called the RADAR test. When evaluating any information source, make sure you evaluate the Rationale, Authority, Date, Accuracy, and Relevance of the information. When looking at the rationale, consider what the purpose of the information is and the intent of the author. If you are reading a commercial source, keep in mind what biases that source will contain. Authority is important when judging the credibility of your source - question the author’s qualifications and if you can trust them. The date or timeliness of the information is also important, as you want to make sure your information is up to date. Accuracy refers to the reliability, truthfulness, and correctness of the information. You can tell if something is accurate by checking if there are errors in the information presented and checking their references. Lastly, but perhaps most importantly, make sure to assess the relevance of what you are reading. Does the information help answer your research question?

Beyond using the RADAR test, there are many verifying tools like FactCheck.org which can tell you if a website is credible or not. Keep in mind that not all websites have been assessed by these tools and so it is important to always complete your own evaluation.
For more information, we have a FAQ on spotting fake news and we just published a FAQ on spotting misinformation on COVID-19 specifically.
Different types of publications you may find in a journal

Learn more: https://www.nlm.nih.gov/mesh/pubtypes.html

Of the many types of publications these are the ones that you are most likely to come across in searching for your topic.

- Research articles from peer reviewed journals - what are they??? more to come later...
- Reviews
- Letters
- Commentaries

There are more than 150 publication types based on definitions provided by the National Library of Medicine and Institute of Health. These not only include typical research and review articles but also letters and commentaries as well as personal narrative, a piece of legislation and interview.

And what most researchers rely on are peer reviewed articles.
What is Peer Reviewed?

https://guides.library.utoronto.ca/peer-review

And of course we have a library guide for this too.
Peer review standards

- Methods must be rigorous
- Results must be reproducible

Experts in the field review the article!!!

They are seeking:
- Current information - something NEW!
- Produced to add value
- Error-free

*Each journal has their own peer review process!*

These are the peer review standards and a schematic of the peer review process. In short, a peer review article is presented to a group of the author’s peers in the academic and research landscape in the form of an editorial board which reviews the document. The article follows a basic template where the topic is defined, provides the methods used and reports on the results. And most importantly, it must be reproducible with the same results. Simply put if I give you a recipe for butter tarts, we better not end up with peanut butter cookies!
Research is both exciting and serious work. and researchers are held to a high standard of responsibility for their work. When a published article fails to the tests of its research, it will be retracted. Here is an example.

Retracted article

RETRACTED

Mehra MR Desai SS Ruschitzka F Patel AN Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis. Lancet. 2020;
(published online May 22.) 10.1016/S0140-6736(20)31180-6

The Lancet, one of the world’s top medical journals, on Thursday retracted an influential study that raised alarms about the safety of the experimental Covid-19 treatments chloroquine and hydroxychloroquine amid scrutiny of the data underlying the paper.

Just over an hour later, the New England Journal of Medicine retracted a separate study, focused on blood pressure medications in Covid-19, that relied on data from the same company.

The retractions came at the request of the authors of the studies, published last month, who were not directly involved with the data collection and sources, the journals said.
So now that you know the different types of information that exist and when to use them to answer your research question, we’re going to show you how to search for this information!
Tools that are transferable to any kind of search

PART 1: THE QUESTION

1. What is your question - what are you being asked?
2. What sort of information do you need to answer your question? Will you defend a statement or provide your own opinion based on what you have read.
3. How familiar are you with this topic? Where will you look for information? Not sure - an encyclopedia or book! I know what I want - an article!
4. How will you search for this information? What are the minimum concepts? Keep in mind different ways to describe your concept (synonyms/like-terms!) - walk, walking, jogging, run, running, gait ...

The tools that we’ll be showing you in this presentation can be applied to any kind of search, not just for your summer mentorship project. A search always starts with taking your research topic and turning it into a research question. Ask yourself, what your question is. From your background reading, you should have an idea of where you’d like to focus your research. Perhaps you have been given the topic of exercise and from your background reading, you identified that air quality is linked to exercise ability. So your question could be what is the effect of air pollution on running performance? Now that you have a question, you need to determine what sort of information you need to answer that question. Since you are interested in providing an opinion on what you have read, it may be good to look for relevant journals and articles that discuss air quality and exercise. Question how familiar you are with this topic - you may be familiar with exercise, but not so much air pollution. You’d want to do some background reading then on this unfamiliar concept. A good place for that could be an encyclopedia or book. If you are familiar with the topic, you may want to jump right into articles. Then determine how you will search for this information. First, you need to figure out what are the major concepts. In this case, you are searching for exercise and air quality. There’s so many ways to describe a concept and in order to get results that cover all these different ways, you’ll need to search for them! When discussing running performance, you may want to search walk, walking, jogging, run, running, gait...
etc.
There are some ways to improve your searching. One of the easiest ways to improve your searching is by using something we call in the library world, Boolean logic. This just means using the terms OR and AND to refine your search. You combine synonyms with OR - remember that OR is MORE, when I combine synonyms using OR, I will increase the number of results since I’m increasing ways that I describe my concept. Then, combine major concepts with AND. When you do this, you’ll retrieve results that only contain both concepts.

Library Pro-Tip: Using OR/AND to get the most out of your search!

5. Combine synonyms with OR – MORE - almost always increases the number of results - don’t panic if it is a huge number, you’re getting the different ways to describe your concept!

6. Combine major concepts with AND – will reduce the number of results. If the search result is really small, think about other similar terms. It could be quite possible that this a new topic or there has not been much research in this area.
Let’s visualize Boolean logic using these diagrams. So jogging and running are synonyms, so I should combine them with OR. By combining them with OR, I retrieve results that contain jogging OR running. If I used AND, I would only retrieve results that mention both jogging and running. If I use NOT, as in jogging NOT running, I will only retrieve results that mention jogging and do not mention running. We generally don’t recommend that you use NOT as it can be restrictive, so focus your searches using OR and AND.
So, what is the difference?

Jogging OR Running
lots of results where either term appears in the articles

Jogging AND Running
fewer results since both terms must appear in the same articles

Jogging NOT Running
retrieves results only where jogging is mentioned and running is NOT mentioned at all

This is just summarizing what I covered in the last slide. Searching jogging OR running will retrieve results where either terms are mentioned in the article. Searching jogging AND running will retrieve results where both terms appear in the article.
So let’s continue our example with the topic that air quality has an impact on the exercise performance of adults. To recap, the first thing that you should think of is what are your major concepts that need to be included in the search. In this case, those major concepts are air quality and exercise. How would you search them? Well, you would want to keep in mind synonyms and also applying Boolean logic. Before you search, it’s a good idea to have an expectation of what you are hoping to find. This question is looking at an effect, so you may want to look for a study that evaluates air quality on exercise performance. This will probably be found in a research article.
The first thing you want to do is identify search terms and create a chart. Once you have your major concepts, you can put them in your chart and then brainstorm synonyms. In the chat, what are some synonyms for air quality? Once you have your chart completed, you can combine synonyms with OR and concepts with AND.
So this is how to structure your search using the Boolean logic that we learned. Notice that synonyms are combined with OR and the concepts are combined with AND.
In the previous slide, I used the asterisk symbol which symbolizes truncation. This is a fancy way of getting alternate word endings. So for example, using exercise with the asterisk pulls up not only exercise, but also articles that mention exercising or exercises. Be careful not to truncate too early however, because doing so will pull up a lot of irrelevant results.
So now that we’ve constructed how to search, we’re going to introduce you to some subject databases. These are great places to search instead of Google Scholar since they are tailored towards retrieving articles relevant to your subject. PubMed is a great resource for finding biomedical and health journals and articles. They contain the most up to date and relevant scholarly resources for your research. You can apply the search strategies that we learned like Boolean logic and truncation to improve your search. Now I’ll take you through PubMed!
I am going to demonstrate Scopus an interdisciplinary database which indexes more than 17,000 peer reviewed journal titles. And again, just think about flipping through the pages of some of those titles to find articles without using an index!

If the search strategy worked in one database, you should try it again in another one.
Is your article a research article??? **Look at the article you found.** Is it a research article? A research article has an abstract that gives a synopsis of the article. It has an introduction, it explains the purpose and method used. It will provide results and may make commentary on those results. It may also provide limitations and talk about what direction the research should take in the future. And it will provide references. These can be really helpful if the topic is unique and has not had a lot of information written about it yet. It could very well be an emerging topic.
Finding the full-text of an article generally requires 2 steps. First, you need to find the article record which includes the author names, article title, journal name, volume, issue number, page range, and a DOI, if available. The DOI is string of numbers, letters and symbols used to permanently identify an article or document and link to it on the web. The article record also should includes the abstract for the article, if one is available. When you’re searching in a database like PubMed or Scopus or a search engine like Google Scholar, the results that you pull up are actually the article record which you can then use to find the full-text. To get the full-text, you can follow the hyperlink if there is one. Make sure that you are signed in through the University of Toronto library in order to access the full-text. If there is no hyperlinked full-text option, you can try searching the University of Toronto library catalogue for the journal you are interested and once you access the journal, search for the specific volume and issue, and then the article. If those steps don’t work, your next best bet is to search the DOI in our catalogue and in Google to see if a full-text version is available. If you’re still experiencing issues retrieving full-text, don’t hesitate to reach out for help.

HOW TO FIND YOUR ARTICLES

Part 1: Search for the Article Record
A. Directly from the Article Record in Scopus, PubMed, or another database
B. Use a search engine such as Google or Google Scholar
C. Follow the hyperlink or search the DOI (if provided), but beware the paywall!

Part 2: Access the Full-Text Article generally in PDF format
A. Link out from database/search engine to the University of Toronto Library
B. Use the University of Toronto catalogue to locate JOURNAL then Browse for ARTICLE
C. Search the DOI if provided

Remember to read the webpage carefully. Every online provider puts the “link to PDF” or a PDF icon in a different place on the page.
Example: Find this article!


Search the article title in PubMed – only as much of the title to keep it unique
(Impact of Ambient Air Pollution on Physical Activity Among Adults)

Search the DOI – DOI:10.1177/1757913917726567

Summon All Search
“Impact of Ambient Air Pollution on Physical Activity Among Adults: A Systematic Review and Meta-Analysis”

Catalogue Search – Journal Title Search
*Perspect Public Health*

Google Search
“Impact of Ambient Air Pollution on Physical Activity Among Adults: A Systematic Review and Meta-Analysis” OR search DOI

So let’s try an activity. I have this article record from our previous search in both PubMed and Scopus, and I want to find the full-text. I’m going to give you all 5 minutes to find the full-text of the article. Once you find it, let us all know in the chat and mention how you found it.

https://pubmed-ncbi-nlm-nih-gov.myaccess.library.utoronto.ca/28829249/
HOW TO READ A RESEARCH ARTICLE

What is the purpose of the Study – the Abstract followed by the Introduction

How was the Study conducted
1. Read the Methods section
   • Can you identify what type of study it is?
   • What do the scientists do to make sure that the results are trustworthy and that the results weren’t just a result of chance?

The Results & Discussion sections
1. Read the first paragraph and the first sentence of the Results section – look for key information
2. Look for references back to the hypothesis/purpose of the study in the Discussion

Step 4: Read the article again & Skim the references for more information

Great - now you have the full-text of the article! So the next step is actually reading the article. As Dana mentioned, articles are comprised of many different sections. The most important section for you to read is the abstract. The abstract of an article contains the purpose of that study and their major results and findings. This information should be enough for you to judge if the article is relevant to your question or not. If it is relevant, you can continue to read the article. Pay close attention to the Methods and Results & Discussion section. The Methods section will detail how the study was conducted, which is important for you to assess if you can trust the results based off their method. In the results section, the key information is typically contained within the first paragraph. Once you’ve scanned the article, it’s a good idea to also check out their references for more information!
HOW TO CITE AND REFERENCE YOUR WORK - CSE

When in doubt, cite! How you cite depends on what citation style you’re using (you’ve probably heard of MLA but we’ll be using CSE!) Toronto District School Board Academic Dishonesty info: https://schoolwebtst.tdsb.on.ca/Portals/princessmargaret/docs/Academic%20Honesty.pdf

To help you cite using CSE:

To quickly auto-generate citations in CSE style: https://kingcitation.com/cse/

Always refer back to the CSE manual to make sure you are citing correctly: https://www.scientificstyleandformat.org/Tools/SSF-Citation-Quick-Guide.html

Find a sample paper here https://mc.libguides.com/ld.php?content_id=12579109

Want something advanced and save time? Try a citation generator software (some are free!)

Speaking of references, you’ve probably heard this before but you need to always cite whatever information you’re making reference to in the body of your paper or presentation, and also include a list of these references at the end of your paper or presentation. When in doubt, always cite to avoid unintentionally committing plagiarism. How you cite depends on what citation style you’re using. You’re most likely familiar with MLA or APA, but your summer mentorship requires that you use CSE. There are many different tools to help you cite, which I’ll be demoing now.

CSE Citation Maker - Free CBE format Generator
KingCitation
So this is an example of a CSE citation, and as you can see all the components of the article record we discussed are listed within the citation which makes it very easy for someone looking up the article to find it themselves!

https://pubmed-ncbi-nlm-nih-gov.myaccess.library.utoronto.ca/28289908/
POSTER DESIGN

You may be asked to prepare a poster for your research.

The Summer Mentorship Guide will take you through this process.

https://guides.library.utoronto.ca/c.php?g=251155&p=1673261

Poster presentations are a key part of any academic career!

During your time here, you may be asked to prepare a poster for your research. Poster presentations are a key part of any academic career. It’s a great skill to learn now. So definitely take advantage of this opportunity to learn now! Our Summer Mentorship research guide will take you through the process.
Help is available from your summer mentorship contacts, you can get some direction through our Ask Chat service and you can also email questions to us directly through ask.gerstein@utoronto.ca and enter “Dana” or “Sabrina” in the subject line of your email.

- Summer Mentorship Library Guide and Online Library Video Tutorials

Help is available from your summer mentorship contacts, you can get some direction through our Ask Chat service and you can also email questions to us directly through ask.gerstein@utoronto.ca and enter “Dana” or “Sabrina” in the subject line of your email. and please do not forget our online video and you tube tutorials and the Summer Mentorship library guide.
THANK YOU!!

We hope you enjoy your time at U of T and the richness of what campus has to offer even during these very different times, as a place for research and learning and also a place to make new friends and connections for the future! All the best with your projects.

Any Questions?

We hope you enjoy your time at U of T and the richness of what campus has to offer even during these very different times as a place for research and learning and also a place to make new friends and connections for the future! We wish you all the best with your projects.