

Tips for Getting Involved in Research

Research is a cornerstone of academia. The pursuit of new knowledge is one of the main factors that motivates students to attend the University of Michigan. However, stepping into the world of research can feel overwhelming, especially if you're not sure where to begin. This guide is intended to help CogSci students feel empowered to engage in research in everything from doing and Independent Study, to working in laboratories or even writing an Honors thesis!

Start with What Interests You!

Start with your own interests. Your interests might be centered around questions, or topics, or methods, and they may be specific or broad. There is no right way to start—the identification or formulation of specific scientific research questions or ideas will come later. For example, maybe you are curious about how digital personal assistants like Siri and Alexa work and wonder if there are similarities to human language processing. Or maybe you are interested in decision making and traumatic life experiences... but not sure about the connection. Or maybe you just think eye-tracking technology is cool, but don't know how it can be used in cognitive science. Perhaps you want see how game theory can be used to model certain social scenarios. Or perhaps you are interested in how children learn new words. But what next? How do you translate your curiosity into action? Here are some tips for getting started:

Tip 1: Spend time learning about faculty research interests from their own personal and lab web sites. Most department web sites allow for keyword searches, and you can always use Google and include "University of Michigan" and a department name in the search. Remember, there is no one right way to start.. and the results of your initial search will help you formulate new searches.

Tip 2: Go to professors' office hours. Ask them about their own research projects and find out what most excites them right now in their science. Ask them how they got started themselves in research.

Quick Links

[Research Laboratories](#)

A number of laboratories on campus conduct cognitive science research and are often seeking undergraduate assistants and interns.

[CogSci Independent Study Webpage](#)

[Faculty Research Interests](#)

[CogSci Faculty Directory](#)

[Undergraduate Research Opportunity Program \(UROP\)](#)

First and second year undergraduate students, including U-M transfer students have the opportunity to engage in a research experience supervised by a research sponsor during the academic year, from September through April.

You can do a lot to prepare yourself to get the most out of these meetings: read more on this in the [next section](#).

Tip 3: [Attend extracurricular lectures, symposia, and speaker sessions](#). Going to these types of events are good ways to see what topics academics and professionals are exploring in their fields and may even give you ideas for projects, or even people you would like to work with in the future.

Tip 4: Hit the stacks! Campus libraries have incredible resources beyond books. You can [set up an appointment](#) with a librarian to learn how to [search for scholarly sources](#), how to develop a research question, and even how to read empirical research articles. Ever heard of [JSTOR](#), [Google Scholar](#) or [Interlibrary Loan](#)?

Tip 5: Take a research methods and/or a statistics class. Many of these courses will give you tools you will frequently need when working in a laboratory or collecting your own data!

Contacting Professors and Potential Project Advisors

Reaching out to faculty members for the first time can be intimidating. You may not know exactly what your own research interests are, how formal your conversation should be, or may have never even spoken to a professor one-on-one outside of class before! Here are some suggestions for interacting with faculty members:

DO: Hop on [Google Scholar](#) and visit the **faculty's website** to see some of the publications your potential mentor has written. One useful trick is to narrow the search to the last 5–6 years. Pick one of the most highly cited papers to read, and one very recent paper to read. Pick papers that spark your interest. This will give you some ideas for talking points and questions (ex “Why did you decide to look at phoneme patterns in Dutch?”, “I noticed you developed an algorithm that better pinpoints...”), and may also inform your own research interests.

DON'T: Send vague and confusing emails. Asking “Can you help me figure out my independent study?” sounds like you have not done much on your own to figuring out your own research interests. Don't say: “I find your research on X very interesting” if you haven't actually looked at the content of the research beyond the keyword X.

DO indicate you have put some thought into your research experience goals, and have made some effort to learn about your potential advisor's research: Being specific can help: “I am really curious about examining how voice recognition on personal devices

distinguishes between homophones. However, I'm not sure how to structure my research question, and I was wondering if we could set up a meeting to see how I could get started on this project?" Or: "I am really interested in your project on X (perhaps from the faculty website), specifically Y, and would like to talk to you briefly about opportunities for getting involved in research." Or: "I would like to acquire skills in method Z, especially applied to research question Q." Or: "I found your paper P very interesting and have some questions about it and would like to learn more about how you are following up on those ideas/results."

Again, there is no one right way to formulate the email, but the more you learn about both your own interests, and how they relate to the ongoing projects of a potential advisor, the better you will be able to have a good conversation, either via email or in person.

DO: Be polite and cognizant of professors' office hours. Most professors are lesson planning, conducting research, writing books or articles, going to curriculum development meetings, handling administrative processes, and meeting with students: sometimes all in the same week! Sending emails well ahead of time to make appointments are more likely to get prompt responses. However, if you have already emailed your professor and have not received a response within a week or two, try going to their listed office hours.

DON'T: Be closed off to working with faculty whose research interests diverge somewhat from your own. It is rare that what you and your potential project advisor want to research are 100% the same. Be open to trying something outside your comfort zone, as the knowledge from this experience may translate well into other projects later down the road. Remember, a primary aim of your research experience is acquiring new *skills*, and these may be acquired in areas that are not perfectly aligned with your own scientific interests.

DO: Prepare notes for your meeting. This is a simple way to remember the most important things you would like to discuss with your professor.

DO: Ask about help in finding post-graduate employment, particularly about mailing lists and newsletter groups where laboratory positions are posted when looking for post-graduate opportunities. Many lab positions are not posted on research institution websites, rather in departmental emails and newsletters. Professors may have an ear to the ground at other institutions or academic organizations that may lead to important connections and networking opportunities.

RAs, Post-Docs, PI's: Oh My!

There are a lot of different positions in laboratories. Here are some of the main roles of people you may encounter while working in a laboratory.

Principle Investigator (PI)

This person (or sometimes small team) is the lead researcher on a project. They usually have written a grant and set out parameters of the study that is being investigated. This includes preparing, conducting, and administrating the study.

Post Doc

A postdoc is a person who has recently completed their PhD, but is continuing their training as a researcher and is preparing for a career in academia. They may also be the PI, or could have been chosen by the PI for their area of expertise to support the study.

Lab Technician/Research Assistant

This is most likely the title or role you will have. You may be carrying out experiments, or providing administrative support for the lab.

Lab Supervisor/Manager

This is the person who is present daily in the laboratory. They may help oversee workflow and report regularly to the PI.

Graduate Students

These are students doing Masters or PhD research in the laboratory as part of their degree. They may be using the data from the lab to write a thesis, or have been hired as part of their funding.