

How Do I Find a Research Opportunity?

Where do I start?

If you are a chemistry major, you probably want to begin by looking for positions in the Chemistry Department. Positions are generally not advertised, so the best approach is simply to investigate online and contact any faculty member whose research interests you regardless of whether research opportunities have been posted. To find out which faculty members are working in areas that you find intriguing, please refer to [Appendix A](#), the [Chemistry Department website](#), or the [Chemistry Undergraduates Research page](#) on Canvas.

There are lots of options for undergraduate research, but do not be overwhelmed by them! It is not possible to collect all of the information about every lab and then put the data through some algorithm to identify the best lab for you. Random circumstance often governs which lab a student joins—many labs are particularly popular at one college because many people join the lab where their friends work. Look for a lab that is interesting to you. Talk to juniors and seniors, as well as your graduate student TAs, about their lab experiences. Which labs do they recommend? Contact chemistry professors with whom you've taken classes for advice about labs. The CHEM 391/491 Course Instructor is happy to meet with you to help identify a good match. If you are serious about joining a particular research group, visit the lab, ask to meet the undergrads already working there, and inquire as to the best method of approaching that particular professor.

How do I contact professors with whom I might want to work?

Do your homework. Most positions are not advertised, but are filled from among the students who contact faculty members. Read about each lab's research and try to talk with current group members to get a feel for the personality and expectations of the faculty member. Write a personal email to the faculty member. Do not send a mass email to multiple faculty members or your email will be considered spam and ignored.

Your introductory email conveys an important first impression and can influence how easy it will be for you to find a lab home. All heads of research labs have either a PhD or an MD degree and should be addressed as "Prof." or "Dr." or and not "Ms., Mrs., or Mr." In your email, tell the professor who you are (name, year at Rice), why you are looking for a position in a research lab, and why you are interested in his or her lab in particular. Describe any relevant course work or prior research experience, even if it was in high school. You also may want to include whether you are looking for a short (1 semester) or longer experience, and how many hours per week you can commit to lab work. If you are considering graduate school after Rice, include this interest in the letter.

How many labs should I contact?

Getting into a lab is partly timing and luck, so do not be discouraged if your first efforts are not successful. It's usually necessary to contact several labs to find a position. If you know someone in a lab where you want to work, ask that person to put in a good word for you. If you are not successful after several attempts, you may wish to ask the Course Instructor for feedback on your contact letter. Additional information about research opportunities and finding an advisor can be found by contacting the CHEM 391/491 Course Instructor.

Are there prerequisite courses I must take before joining a research lab?

Most students joining a lab have some background in inorganic chemistry from a general chemistry course or CHEM 360, and many will have taken organic. You may not have taken courses in other areas of chemistry by the time you join a lab, but you can envision many interfaces between chemistry and other fields. Physical chemistry is a great direction to go if you like physics and chemistry, and bio-organic chemistry is the interface between biological chemistry and organic. People who have strong interests or background in mathematics and/or computer science might consider becoming theoreticians or computational chemists. Rice has a rich history of excellence in nanotechnology, which has applications in almost all areas of chemistry, from biochemistry to materials science.

Should I consider conducting research at the Texas Medical Center?

The Texas Medical Center holds enormous possibilities to do research, and students who are headed to medical school might be particularly interested in the possibility of working at the medical center. Nevertheless, several factors complicate off-campus research, which should not be taken lightly:

- 1) Travel time — The trip may take 10–35 minutes, depending on where you work, and reduces the amount of time you have to spend in the lab.
- 2) Hard to drop in for a few minutes — Sometimes when you have a break between classes you will want to drop into lab for a few minutes to start a reaction, check on an analytical run or a calculation, or talk to your professor. These few minutes can often give you a head start or eliminate waiting time when you have your next block of time in the lab. The distance problem can preclude popping in and out of an off-campus lab.
- 3) Cultural differences between Rice and other TMC institutions — Most labs at the medical center are less accustomed to working with undergraduate researchers and may be less accommodating of undergraduate schedules and instructional needs.
- 4) Paperwork and safety training courses — Additional paperwork and safety training courses are required for most off-campus labs, so you will have to budget extra time to complete these before beginning research.

However, students who have prepared for these complexities have an unusual opportunity to undertake medical research as an undergraduate student. A hybrid approach is to join a Rice lab that works closely with TMC faculty. Please see the CHEM 391/491 Course Instructor if you would like leads in these directions.

Are there paid research opportunities?

Most undergraduate research during the school year is done for credit. In many labs, paid positions during the school year are limited to lab maintenance or very routine work, and actual research will only be available for students working for credit during the academic year. However, many labs offer some paid positions over the summer. Some professors do try to set up paid research positions during the school year for students who are eligible for work-study. Note: students cannot simultaneously earn course credit and be paid for their research.

Also, there are a limited number of summer research fellowship opportunities within the Chemistry department, such as the Dr. Paul S. Engel Fellowship, the George Holmes Richter Memorial Fellowship and the Zevi & Bertha Salsburg Memorial Fellowship in Chemistry. See [Departmental Awards & Fellowships](#) for more information.