

# How to find an area of science that interests you, and a research group or internship program

You will want to identify an area of the life sciences that you find exciting, and then within it find a good lab that will take you as an intern, or for graduate school.

## So, how do you know what area you find interesting?

First, think about what you found interesting in the lectures, lab courses, and perhaps any seminars that you went to. Perhaps you also have some idea from back in High School. And-talk to other people to see what they find interesting.

Here are some **ideas** from the fields represented at Jacobs:

- Biochemistry (Enzyme mechanisms, Metabolism, Structural Biology, ...)
- Cell biology (Signal Transduction, Membrane Transport, Intracellular Protein Trafficking, Molecular Immunology, Cell Cycle, ...)
- Bioinformatics
- Developmental biology (Development of the Nervous System, ...)
- Neuroscience (Neurodegenerative Diseases, ...)
- Physiology (Hormones, Nutritional Science, ...)
- Genetics (DNA Replication, Transcription, Translation, Genomics, ...)
- Microbiology (Bacteriology, Virology, ...)
- Plant Science

It is not a problem if there are two or three areas that you find interesting - you can follow them up in parallel. And if you are still not sure what to pick it is not a bad idea to just make a random pick - in fact, all these areas are very exciting, but you will only appreciate them once you have looked into them a little.

Once you have found something you think you might be interested in, try and **develop your knowledge** further. Read in the textbooks. Find review articles of interest in the literature using Medline (see below). Try especially journals with entry-level reviews such as "Current Biology" or the "Trends" series journals (e.g. Trends in Biochemistry, Cell Biology, Immunology,...). If we don't have online access, get the articles via [interlibrary loan](#).

Another way is to contact [faculty](#) with similar research interests - or their graduate students and postdocs - and to ask them for literature to read. Everyone likes to talk about their research. Also, go to research talks at Jacobs. There is a molecular life sciences seminar on Tuesdays that brings research reports from life scientists inside and outside this university, as well as a research overview every fall semester in the context of the graduate course 530451, 'Recognition and Cooperation'.

## And then, how do you find the right lab to do an internship?

In principle, there are three kinds of internships:

- Internship programs. Some US universities (and a few European universities and research institutes) have organized internship programs. You apply to the program, not an individual lab. Search on the internet for "summer undergraduate research program life sciences".
- Many European and American universities have no internship program. You can always apply to individual research groups.
- Companies, of course, offer internships too, which can be nicely paid and organized.

### First approach: By people.

- Find out what others did, and where they went. Talk to the third years about their experiences.
- Find out where other people from BCCB have gone. In such places, you likely have an advantage because they already know how good our students are.
- Read through the internship reports of life sciences students (in the career service center).
- Go to the internship report session organized by third-year life sciences students which usually takes place sometime in September.

### Second approach: Search for yourself.

If you know something about your area of interest, see who wrote the reviews (or the research articles) that you liked best. The head of the research group is usually the last author on the paper. Use [PubMed](#) to find other papers by the same person. Or, call up a paper that you liked and use the "Related articles" link to find others dealing with similar topics. Or, do a straight search on PubMed for key words of your interest. If you are interested to work in a specific country, city, or university, use the "Preview" feature to filter your search (in the "Affiliation" field). You can search for high-impact publications by filtering with journal names such as "Nature", "Immunity", "Biophysical Chemistry" in the same way. Once you have identified a particular research group, find the home page of the lab through Google, and see how they describe their own work.

### Third approach: Look by universities.

Go directly to universities' pages and try to find interesting labs. In Germany, in addition to universities, also try the institutes of the [Max Planck Society](#) and the [Helmholtz Association](#).

### Fourth approach: Lists.

Look at this [list of internship programs](#) that BCCB students have applied to and/or that have expressed special interest in hosting Jacobs students; and also look at this [list of institutes](#) that have no internship programs but would still like applications from Jacobs students.

### Fifth approach: Internship databases.

These post internship openings.

- The [RISE program of the DAAD](#) (German Academic Exchange Service) has a database of internships abroad, and - conveniently - it also offers financial support. The program is for "undergraduates from a German university interested in gaining research experience all around the world" (their website).
- "[Praktikumsboerse](#)" (internship database) of the GBM, the German professional society of biochemists. The Site is in German but it is worth taking a good look, erhaps with the help of a friend - there are some very good positions here.
- "[jobvector.com](#)": job and internship database of the VDBiol, the German professional society of biologists. Site version in English.

Discuss your choice of lab with faculty.

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