

Description

The best way to really learn something is to do it. As an academic, you are as passionate about educating students as you are about your research. Therefore, one way to really make a difference is to involve undergraduate researchers in your lab.

An undergraduate researcher will be excited to gain hands-on experience in a lab. This experience will help them make career decisions and practice what they learn in lectures. In addition, your graduate students will also benefit from the mentoring experience.

How do Undergraduate Researchers Benefit?

Getting involved in research early in student life has several career benefits:

- Learn to read critically.
- Improve academic performance.
- Practical application of coursework.
- Potential to learn skills outside of coursework such as writing proposals, time management, research ethics, research presentations, and writing papers.
- Develop research skills: research question, hypothesis, experimental design, data collection, and analysis of results.
- Networking opportunities.
- Improve communication skills.
- See the bigger picture of science.

How do Supervisors Benefit?

While the benefits of having undergraduate researchers mostly weigh towards the undergraduates, supervisors do also benefit from the interaction:

- Undergraduate researchers help supervisors **free up time** from doing mundane tasks by easily handling tasks like making buffers, labelling tubes, washing glassware, and packing tip boxes. These tasks are all beneficial in gaining a feel for life in a lab and once they have mastered these skills they can move onto tasks requiring more skill and responsibility.

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- These young researchers can also help in making a valuable **contribution to the supervisor's or another graduate student's career**.
- They help make writing **letters of recommendation** more meaningful when the supervisor has personally interacted with them and seen their approach to research.
- Graduate students can gain good **mentoring experience**.
- Undergraduate researchers often **question traditional thinking**. This helps the supervisor explore new research areas and grow professionally as well.

Characteristics of Good Undergraduate Research Assistants

We all know that research is not easy. It takes great commitment and persistence. An undergraduate student will require more of your time than a graduate one since they have very little knowledge and experience. Therefore, an undergraduate researcher should possess the following traits:

- **Creative**: This helps to find gaps in knowledge, devise a research question, and solve problems.
- **Judgement**: This is crucial when making decisions. As the undergraduate develops independence they will need to make decisions without asking a superior every time. In addition, research often requires judgement on ethical issues.
- **Communication**: Supervisors want someone who will communicate effectively with them and graduate students to build a good relationship and keep everyone informed of the research.
- **Organization**: An undergraduate researcher needs to balance a busy schedule of attending lectures, performing experiments, doing administrative tasks, and keeping proper records.
- **Persistence**: Ultimately, each researcher wants to make their own discoveries. As mentioned above, research is not easy. Experiments will fail and researchers will make mistakes. This is all part of the job. Someone with persistence will be able to overcome the challenges and make progress.
- **Enthusiasm**: Supervisors want someone who really wants to work in their lab and gain experience. An enthusiastic undergraduate student will not only make a meaningful contribution to the supervisor's research and his team, but also to their own career development.

Researchers Should Supervise More Undergraduate Students

It may take more time and effort to supervise an undergraduate student. Moreover, they will make more mistakes and have less confidence when making decisions. However, they often have a fresh outlook on science. It is an opportunity to make a valuable teaching contribution to someone's professional growth. In fact, a carefully planned undergraduate program can make this a worthwhile exercise for all parties involved.

Researchers need to be team players and not fear failure. Undergraduates can also gain valuable life skills from working in a lab such as critical thinking, problem identification, and technical proficiency.

Would you consider starting an undergraduate research assistant program in your lab?

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