

# SCIENTIFIC RESEARCH

Sponsored by the UTSA Center for Research and Training in the Sciences  
MBRS-RISE and MARC-U\*STAR Programs

## A Freshman's Guide to Becoming a Research Scientist

Research scientists study the processes involved in diseases and health and work toward developing ways to cure or prevent them. Depending on the field, they design and run hands-on experiments on a lab bench or simulated experiments on a computer. They can work in academia, industry or for the government. With every major discovery, researchers publish the findings in scientific journals and present their work at conferences. In this way, they share their breakthroughs and contribute to the knowledge that may ultimately alleviating human suffering.

Typically, research scientists are curious-minded individuals who do not give up easily when confronted with a challenging task but rather generate creative solutions to the problem at hand. They love discovering new things, enjoy taking charge of their own work, and question what they hear rather than taking it at face value. Research scientists who have their own labs are called principle investigators and have Ph.D.'s. What most people do not know is that doctoral programs actually fund their students to get the Ph.D. Doctoral students in the sciences get paid a monthly stipend throughout their time in the program. It's as though you get paid to go to school! You don't even need a master's degree to be accepted to a doctoral program. You can apply during your senior year in college.

There are certain things you must do while in college to increase your chances of acceptance into a Ph.D.

program. Start getting research experience early and continue throughout your stay in college. The more experience, the better. UTSA has one research program that funds freshmen who are underrepresented in the sciences to get involved in research year-round. It is called the MBRS-RISE program. Other ways to get research experience include volunteering in a lab or enrolling in an Independent Study. The latter would allow you to get university credit for completing a project in a professor's lab here on campus.

During your sophomore year, continue doing research. In the fall, search for summer research programs in San Antonio and across the nation that interest you. Summer programs not only pay you to do research, but also give you a chance to become familiar with the graduate programs at those institutions. Most summer program applications are due in January or February prior to the summer start date.

During your junior year, continue doing research in a lab and think about doctoral programs you would like to attend. Check whether they require applicants to have taken specific upper-level science classes. Determine the minimum required GRE (Graduate Record Exam) score and begin preparing for the GRE. Get involved in a summer program again and possibly even a year-round research program. UTSA's MARC program funds juniors and seniors who are underrepresented in the

sciences to do research year-round.

During fall of your senior year, apply to Ph.D. programs. A letter of recommendation from your research mentor will be extremely important. Doctoral programs want students who have a passion for research and they look for students who have shown enthusiastic involvement in research.



Make the most of your time in college to prepare yourself for the career of your dreams. Experience is just as important as grades. Look for opportunities to get paid for working in your field but even experience gained from volunteering is better than none. For general information on research and grad school, check out [www.phds.org](http://www.phds.org). For questions that are specific to your needs or for information about opportunities for underrepresented students, contact the MBRS-RISE and MARC-U\*STAR offices in BSE 1.614, 458-5761 or BSE 1.610; 458-6550. Our websites are [www.utsa.edu/mbrs](http://www.utsa.edu/mbrs) and [www.utsa.edu/marc](http://www.utsa.edu/marc).