

SCIENCE, COMPUTATION, INNOVATION, ENGINEERING INDUSTRY ROADMAP

Career Paths and Desired Skills

Research careers involve using analytical tools and skills to gain new information about the world around us. In a research career, you use technical skills to investigate new questions in your area of expertise. These skills might include data analysis, laboratory procedure, qualitative interviews, or mechanical abilities. Many careers in research require an advanced degree, such as a Master's or a PhD; researchers are experts with highly specialized subject knowledge. You can gain relevant research experience as an undergraduate, which will prepare you for post-graduation options. Undergraduate research also allows you to gain transferable technical, communication, and quantitative skills that can be applied to a variety of industries.

Entry-Level Role

LABORATORY TECHNICIAN

Lab technicians provide administrative lab support and execute critical experiments associated with research plans. Lab technicians are crucial in ensuring that lab equipment works properly and that essential supplies are maintained.

Key Functions

- Maintain reagents and stock supplies used by the lab
- Provide administrative support
- Organize and analyze data
- Execute experiments and interpret results

Skill Set

- Organization
- Oral and written communication skills
- Interpersonal skills
- Problem solving
- Analytical skills

RESEARCH ASSOCIATE / RESEARCH SPECIALIST

Research associates conduct research at a variety of institutions, ranging from academia to national laboratories. Industry jobs are also available to conduct research at organizations that develop products or techniques.

- Carefully prepare and conduct experiments
- Analyze data to inform future research plans
- Communicate research findings in both written and oral formats

- Analytical thinking
- Strong communicator
- Creativity
- Interpersonal skills
- Attention to detail
- Organization

GRADUATE STUDENT

Many careers in research require an advanced degree, such as a Master's or a PhD; researchers are experts with highly specialized subject knowledge. Many recent graduates interested in STEM research choose to attend graduate school to prepare them for future careers in research settings such as academia and industry.

- Engage in graduate courses in your area of expertise
- Design and execute a research plan
- Communicate research findings and defend a thesis

- Problem solving
- Analytical skills
- Interpersonal skills
- Organization
- Quantitative ability

BUILDING EXPERIENCE FOR CAREERS IN SCIE

Career Advancement offers a number of events and resources to help prepare you for a career in science, computation, innovation, and engineering:

EXPLORE

- Treks and site visits to top employers in the United States and around the world. Past local research-oriented treks have included Argonne National Laboratory, the Adler Planetarium's Space and Visualization Laboratory, and Fermilab. Small groups of students have also toured organizations in different parts of the country, including the Madison STEM and Healthcare Trek, a trek to the Research Triangle Park in North Carolina, the Boston Biotech Trek, and the Bio Innovation Trek to Cleveland.
- Graduate School Exploration & Preparation Seminar: A series of workshops and panels to prepare scholars on the graduate admissions and funding process.

ENGAGE

- Coaching from industry experts with a variety of graduate school and research experiences
- UCISTEM provides guidance and funding opportunities for gaining undergraduate research experience. Students may obtain an undergraduate research position through professors at UChicago or through a summer research program.
- UChicago Undergraduate Research Symposium: Students can participate in, or attend, the annual Undergraduate Research Symposium, which provides students with an opportunity to showcase and enhance their scientific communication skills while highlighting the diversity of research that undergraduates participate in.

APPLY

- Application tips: A strong STEM research application will emphasize any previous research experience you have and highlight technical skills such as lab skills or programming skills. Include past research publications or presentations and note science related leadership and service opportunities.
- Summer positions: Summer recruiting timelines vary widely depending on the kind of position you are applying to. Many national labs or university research programs will close applications in late fall or early winter quarter. Be prepared to search for these positions during the fall, as some do require recommendation letters. If you are seeking a research internship in industry, familiarize yourself with the recruiting timelines for the specific companies you are interested in, which vary throughout the academic year.
- Graduate School Applications: Most applications for graduate school are due in the winter prior to matriculation and require three or more letters of recommendation, a statement of interest, research statement, resume/curriculum vitae (CV), transcripts, and GRE scores. Some programs also require subject GRE scores.
- Full-time Research Positions: Similar to internships, the timeline and application process for full-time industry roles vary based on company needs and culture. Fall quarter of 4th year is a smart time to begin researching companies and plan your application timeline, attend a Career Fair, and practice for interviews.

REPRESENTATIVE EMPLOYERS, GRADUATE SCHOOLS, AND FUNDING OPPORTUNITIES

Research Institutes & National Labs

Argonne National Lab
CERN
Centers for Disease Control and Prevention
Mathematica Policy Research
National Institutes of Health
NASA

Industry

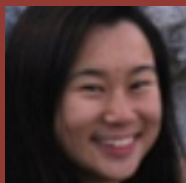
Genentech
Environmental Protection Agency
Field Museum
Kew Botanical Gardens

Graduate Schools

University of California, Berkeley
Harvard University
MIT
Yale

Funding & Fellowship Opportunities

UCISTEM Research Grant
National Science Foundation's Graduate Research Fellowship (NSF GRFP)
Fulbright Fellowship



Melissa Li (AB '17)

- Research assistant with University of Chicago Medicine and the Marine Biological Laboratory
- Full-Time: Junior Data Analyst at Tempus in Chicago, Illinois



Tyler Johnson (AB '18)

- Research position in the UChicago Physics Department
- Research Presentation: UCISTEM's Undergraduate Research Symposium
- Full Time: Preparing for a Physics PhD program at Duke University
- Pi Beta Phi, Model UN