



# KEYS RESEARCH INTERNSHIP

TRAINING A SKILLED AND DIVERSE  
STEM COMMUNITY



Promoting Workforce Development for the Next  
Generation of Scientists in Arizona



## WHAT IS KEYS?

The University of Arizona BIO5 Institute's KEYS (Keep Engaging Youth in Science) Research Internship stands as one of Arizona's leading STEM training programs for high school students. This program offers hands-on experience through immersive, real-world research projects, all guided by top University of Arizona scientists.

Aligned with BIO5's mission to shape the next generation of scientists, the KEYS program is committed to upholding a tradition of excellence and inclusivity in research training. The program emphasizes creating transformative learning opportunities for students from diverse backgrounds.



Over seven weeks during each summer, KEYS empowers students to explore their passion for scientific discovery, while advancing their academic, professional, and personal growth.

KEYS seeks to broaden and diversify the STEM talent pool, inspire young scholars to pursue STEM degrees, attend Arizona's public universities, and ultimately contribute to the state's thriving workforce.

KEYS interns help tackle big scientific challenges and work on real research projects that advance health outcomes or improve the environment.

KEYS interns engage in research across diverse areas, including but not limited to:

- Asthma and Airway Diseases
- Biomedical Engineering
- Cancer Biology
- Drug Discovery
- Environmental Science
- Genetics/Genomics
- Immunology/Infectious Diseases
- Infectious Diseases
- Neuroscience/Brain Diseases
- Physics
- Toxicology





## THE HISTORY OF KEYS

KEYS began as a pilot project in 2006, then co-led by the University of Arizona BIO5 Institute and R. Ken Coit College of Pharmacy Southwest Environmental Health Sciences Center (SWEHSC), with a founding goal of allowing high school students from across Arizona to actively participate in real-world research. In 2007, KEYS became a permanent STEM research internship on the U of A campus with a cohort of nine interns.

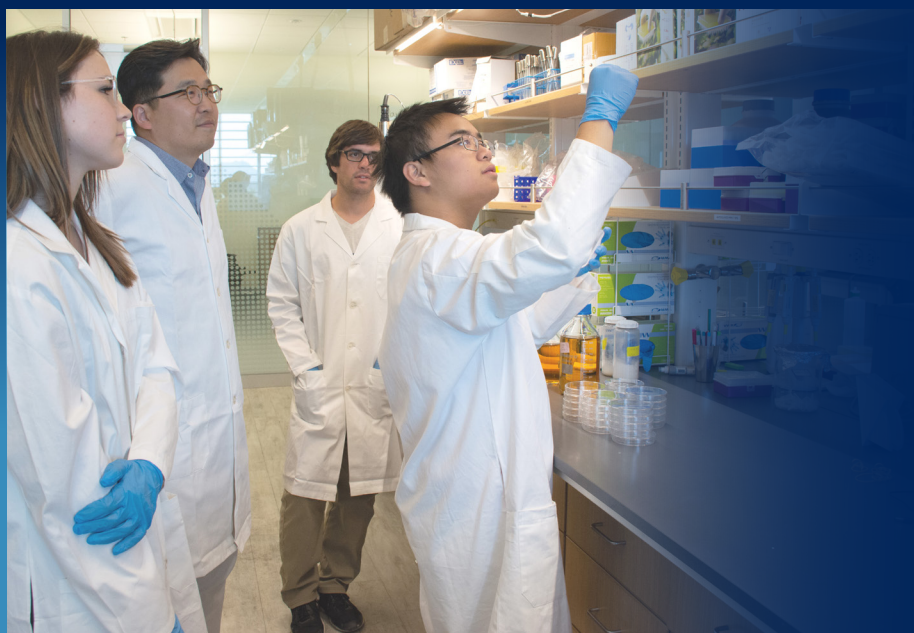
Today, BIO5 continues to spearhead the KEYS program, driven by its original mission. University of Arizona partner colleges and generous donors sustain the program through financial, in-kind support, and faculty mentorship. KEYS now boasts more than 750\* alumni representing over 100 Arizona high schools.

\*KEYS will boast more than 750 alumni representing over 100 Arizona high schools following the 2025 cohort.



## KEYS TO THE FUTURE

Continuing BIO5's commitment to preparing future scientists, the exceptional KEYS program staff is dedicated to excellence and inclusivity, with a special focus on providing transformative opportunities for students from underrepresented backgrounds in STEM.



## WHAT KEYS MEANS TO STUDENTS

In order to become leaders of tomorrow, today's students need determination, curiosity, and a mindset that embraces teamwork, creativity, problem solving, and emotional competence. These are all capabilities reinforced through the KEYS experience. KEYS provides many incentives for students to stay in Arizona for college, and beyond.

KEYS interns not only gain experience in interdisciplinary bioscience, biomedical science, biostatistics, biomedical engineering, data science, or environmental health research, but also train in biotechnology skills, science literacy, ethics, and communications that they typically wouldn't learn in the classroom.

Visit [KEYS.ARIZONA.EDU](https://keys.arizona.edu) to read alumni impact stories.



Interns receive three undergraduate credits upon completion of the program and are assured admission into the W.A. Franke Honors College if they select the University of Arizona for their undergraduate studies.

Interns extend their KEYS experience by presenting research at conferences, contributing data to grant applications, co-authoring publications, and continuing lab work with valuable experience that sets them apart from typical incoming undergraduates.

## WHAT KEYS MEANS TO ARIZONA

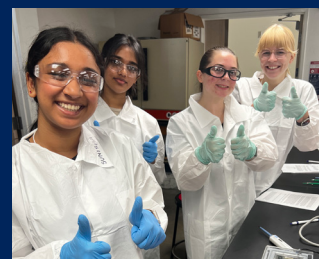
### BUILDING THE PATHWAY FOR A DIVERSE STEM WORKFORCE

KEYS recruits top talent from Arizona's diverse communities, offering a life-changing experience at the University of Arizona. The program values diversity in thought, culture, expertise, personal experiences, and disciplines—principles that are core to BIO5's mission.

Through KEYS, interns gain the skills, experience, and confidence to succeed in an ever-evolving world. The program builds a diverse pathway for students to pursue STEM education at Arizona's public universities, equipping the next generation of scientists and engineers for workforce readiness.

KEYS aims to expand access and equity, addressing the needs of Arizona's diverse communities by providing underserved students with the resources they need to build successful STEM careers.

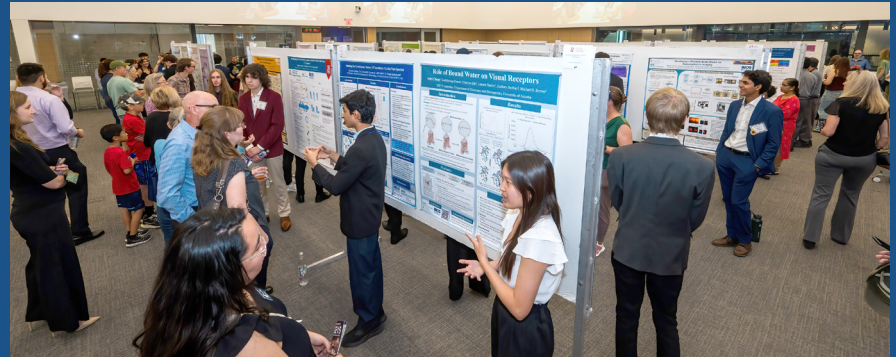
Our program helps interns strengthen their foundational science skills, particularly those from resource-limited high schools, while connecting them with professionals they wouldn't normally have the chance to meet or network with.





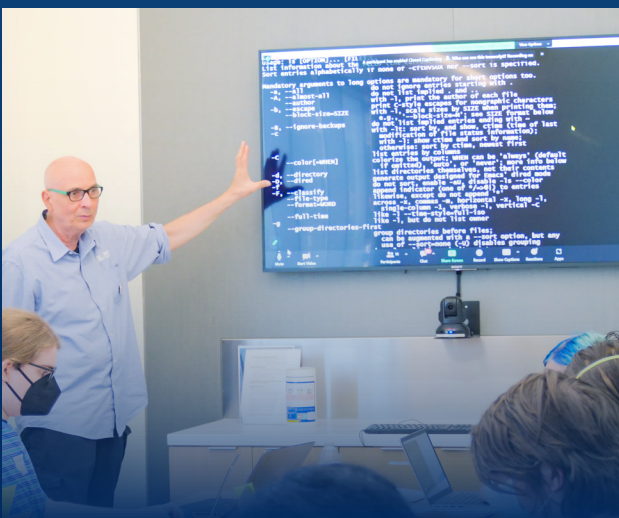
# THE PROCESS

Before starting research, KEYS interns undergo an intensive one-week crash course in bioscience and data science techniques, lab safety, and scientific literacy, ensuring they have the foundational knowledge to begin their projects. From weeks 2 through 7, University of Arizona researchers, lab staff/students mentor interns as they conduct their assigned lab work. At the program's conclusion, KEYS interns present their research findings and share their experiences through a scientific poster session at the KEYS Research Showcase, attended by friends, family, community stakeholders, and members of the academic community.



## KEYS RESEARCH MENTORS AND SUPPORT STAFF

The contribution of time, talent, and mentorship from the research faculty at the University of Arizona is essential to the success of KEYS. Interns are welcomed into their labs and provided opportunities to explore and experience the excitement of scientific research and discovery.



Interns also learn from the guidance of postdoctoral fellows, graduate and undergraduate students, and the dedicated KEYS staff and crew. They further benefit from collaboration and shared learning with their fellow interns. Each year, over 100 individuals contribute to making KEYS a success.



## SUPPORT FOR KEYS

The Technology and Research Initiative Fund (TRIF), established with public support via voter approval, helped launch the BIO5 Institute over 20 years ago and continues to be a catalyst in enabling important, cross-disciplinary bioscience research, innovation, and impact at the University of Arizona. TRIF also supports exceptional student engagement programs like KEYS.

KEYS is funded by the BIO5 Institute and generous contributions from individuals, families, companies, foundations, U of A alumni, and Arizona faculty, colleges, and departments.

Philanthropic support is essential to keeping KEYS free and accessible for all students.

## JOIN US IN SHAPING THE FUTURE OF STEM

The KEYS Research Internship is not only an investment in the next generation of scientists but also in the future of Arizona's STEM workforce and communities. Your support ensures that we continue to provide transformative opportunities for bright, motivated high school students, regardless of their financial background.

### Two Ways To Give

#### Make checks payable to:

University of Arizona  
Foundation

Mail to:  
BIO5 Institute/KEYS  
PO Box 210240  
Tucson, AZ 85721-0240

#### Make your gift online

*KEYS Internship Program*



[bit.ly\\_4aAtxrC](https://bit.ly_4aAtxrC)

*KEYS to the Future Endowment Fund*



[bit.ly\\_3LmJZBi](https://bit.ly_3LmJZBi)







## LEARN MORE



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