OSU
Beckman Scholars Program

Information Session
2024 - 2025 Program Year
"There is no satisfactory substitute for excellence"

"absolute integrity in all things"

−Dr. Arnold O. Beckman
“The mission of the Foundation is to support leading edge research, in the fields of chemistry and life sciences, broadly interpreted, and particularly to foster the invention of methods, instruments, and materials that open up new avenues of research and application in these sciences and related disciplines. My preference is to favor young investigators, new ideas, and a variety of projects rather than fund large, established ones of long duration.”

Dr. Arnold O. Beckman
DR. ARNOLD BECKMAN, PHD

Rural upbringing
Curious young person
9-year old at-home chemist
PhD-level physical chemist
Professor at CalTech
National Inventors Hall of Fame
Beckman Instruments, Inc.
Centarian
The OSU Beckman Scholars program welcomes applicants from all backgrounds and we intend to be an inclusive space for enthusiastic and driven young investigators.
May 2022 – Invited to apply for prestigious BSP
June 2022 – Competitive review process
Fall 2022 – Finalist
December 2022 – Program awarded to OSU
May 2023 – Year 1 scholar–mentor pairs selected
February 2024 – Year 2 applications due

Only 14 institutions across the United States awarded in 2023

OSU's Beckman Scholars Program is the first for any Oklahoma institution!
Dr. Erika Lutter  
OSU BSP PI & Mentor  
Assoc Professor of Microbiology & Molecular Genetics

Dr. Rachael Eaton  
OSU BSP Director  
CAS Program Manager for Student Research

Dr. Camelia Knapp  
CAS Associate Dean for Research  
Professor of Integrative Biology

OSU BSP Leadership Team

Reseach
College of Arts and Sciences

8 Faculty Mentors
OSU BSP seeks **highly-motivated and enthusiastic students** interested in making real-world contributions in chemistry, physics, and life sciences.

**Strong students** with a commitment to academic achievements

**Research-motivated** with curiosity and determination to learn beyond the classroom

**Future STEM leaders** looking to make important contributions in both their current and forthcoming endeavors

**You are welcome here, even IF:**

- No previous research
- No clue how to find a research mentor
- Not sure how to get started in research
ELIGIBILITY REQUIREMENTS

Applicants must meet these requirements in order to be considered for the program.

Undergraduate OSU Student
Enrolled full-time throughout the award year
Good academic standing (no academic or other probation)

Citizen, Permanent Resident, or USA or its territories or DACA recipient status

Enrolled in a degree program from CHEM, I-BIO, MMG, PHYS

Strong written, verbal, interpersonal communication skills

Plans to pursue PhD, MD, or MD/PhD
--Other scientific pursuits may be considered

What about GPA?
OSU BSP focuses on chemistry and life-science research

Participating Departments:
- Chemistry
- Physics
- Integrative Biology
- Microbiology and Molecular Genetics
Eligible majors include:

- Biochemistry (within Chemistry dept)
- Chemistry
- Medicinal & Biophysical Chemistry
- Physics
- Biology
- Physiology
- Zoology
- Microbiology/Cell & Molecular Biology
PROGRAM DETAILS

Research Experience
- Intensive
- Mentored
- Independent

Professional Development & Training
- Workshops
- Leadership & Outreach
- Communication

Preparation for Doctoral Programs
- PhD
- MD
- MD/PhD
THE SCHOLAR EXPERIENCE

Research with your BSP mentor (15 months)
- Summer 2024
- Fall 2024
- Spring 2025
- Summer 2025

Professional Development & Training
- Activities throughout the 15 months
- Present your research

Check-in sessions with faculty of the BSP Advisory Committee

Recognition & Celebration
- Departmental and OSU media
- Awards ceremonies
STIPEND & TIME

Student Stipend - $18,200 total
- Summer 2024
  - $6,800
- Fall 2024 and Spring 2025
  - $4,600
- Summer 2025
  - $6,800

Scientific Supplies and Travel
- Up to $2,800 in support to conduct and/or present your research

Mentor Stipend
- Financial resources to enhance your training
  - Traveling with you to conferences
  - Additional research supplies
  - Publishing your research
OSU BSP PROGRAM BENEFITS

Shine in a prestigious experience available to just a few students across the country each year

- - -

Learn and 'create new knowledge' alongside outstanding OSU scientists

- - -

Receive personalized mentoring from exceptional faculty committed to training future STEM leaders

- - -

Earn a competitive stipend to conduct your research and present your work to fellow scientists at OSU and beyond
OSU BSP

EXPECTATIONS

Continue to excel academically

Commit to your research experience full time in the summers (40 hrs/wk) and part-time throughout the fall and spring semesters (10 hrs/wk)

Make satisfactory research progress

Engage in all Beckman-related events and opportunities throughout the year
OSU BSP RESEARCH AREAS

Computational chemistry with a focus on molecular modeling of condensed phase systems

Factors affecting of sound processing including how changes that occur to the brain affect auditory processing

Features and mechanisms of bacterial stress responses; metabolism and behavior of pathogens

Low temperature synthetic techniques; nanomaterials

Use physiology, behavioral ecology and evolutionary biology to understand proximate mechanisms and evolutionary consequences of life history trade-offs.

Bacterial host-pathogen interactions involving Chlamydia trachomatis and polymicrobial interactions of cystic fibrosis infections.

Understanding the molecular mechanisms of calcium (Ca2+) signaling in bacterial physiology.

Theory and computation methods to predict which materials can be candidates for energy production.
APPLICATION “PACKAGE” REVIEW PROCESS

Selection committee includes faculty (non-mentors), graduate students, and representatives from OSU student research offices and Institutional Diversity

Selection committee reviews all applications after the February 19th deadline

Top candidates invited to meet with the committee for interview/conversation

The selection committee will utilize a holistic review process when evaluating potential Beckman Scholars

Equal emphasis on merit and DEI components during scholar selection
APPLICATION REVIEW CRITERIA

- Potential to succeed in a research environment
- Potential to complete a mentored, independent research project
- Potential to become a peer leader as a Beckman Scholar
- Interest in contributing to excellence in diversity, equity, and inclusion
- Career ambitions as discussed in essays and conversation with the selection committee
- Oral, written, and interpersonal communication skills
MEET OUR BECKMAN SCHOLARS

Nina Parvin
Mentor: Dr. Mario Borunda
3rd Year Student
Physics & Mechanical Engineering

Adriahna Blackburn
Mentor: Dr. Matt Cabeen
2nd Year Student
Microbiology/Cell & Molecular Biology
LET'S LOOK AT THE APPLICATION

https://form.jotform.com/230304469451149
OSU Beckman Scholars Program Application

Program details and eligibility information available on the program webpage. Be sure to read and follow any instructions carefully prior to submitting your application.

Applicants selected for an interview will be notified in late April.

Application Deadline - March 24, 2023

Program Structure
Beginning in May 2023, the College of Arts and Sciences will name two Beckman Scholars each year for three years.

Each Beckman Scholar receives a stipend of $18,200, as well as additional funding for scientific supplies and travel to support their research activities. Stipends will be distributed as follows:

- First Summer - $6,800
- Academic Year - $4,600
- Second Summer - $6,800
- Beckman Scholars commit to 40 hours of research for at least 10 weeks during the summer (2023 and 2024) and 10 hours per week of research during the academic year (fall 2023 and spring 2024).

Program Eligibility Criteria

- Undergraduate Oklahoma State University student
- Full-time enrollment throughout the duration of the award
- Good academic standing
- Enrolled in a degree program within one of the four OSU BSP departments: Chemistry, Integrative Biology, Microbiology and Molecular, Genetics, Physics

Application Components

- Student Details and Contact Information
- Academic Information
- Confirmation of eligibility
- Research interest topics
- Essay (750 words): What would being an OSU Beckman Scholar mean to you, and how would it help you achieve your career goals?
- Essay (750 words): Describe your commitment to diversity and inclusivity as a Beckman Scholar and beyond.

The selection committee will apply a holistic review of all eligible applicants.
Academic and Research Interests

Select your College of Arts and Sciences major(s) below. Choose all that apply. *

- [x] Biochemistry
- [ ] Biology
- [ ] Chemistry
- [ ] Medicinal and Biophysical Chemistry
- [ ] Microbiology/Cell and Molecular Biology
- [ ] Physics
- [ ] Physiology
- [ ] Zoology

Current Classification

Freshman

Do you have an academic concentration within your major? *

Have a concentration?

- [x] Yes
- [ ] No

If yes, please list the concentration

Do you have an academic minor? *

Have a minor?

- [x] Yes
- [ ] No

If yes, please list the minor(s)

In what semester and year did you enroll as an OSU undergraduate? *

Spring 2023

What is your expected graduation semester? *

Spring 2025

Example: Spring 2024
Choose your top three (3) areas of research interest.*

- ✔ Chemistry: computational chemistry a focus on molecular modeling of condensed phase systems
- ✔ Chemistry: low temperature synthetic techniques; nanomaterials synthesis, bioengineering, drug delivery, materials science
- ✔ Chemistry: devise green and creative strategies to synthesize organic materials to reduce cost, waste, and environmental impact and improve safety.
-  ❑ Physics: theory and computation methods to predict which materials can be candidates for energy production
-  ❑ Microbiology/Molecular Biology: features and mechanisms of bacterial stress responses; metabolism and behavior of human pathogens
-  ❑ Microbiology/Molecular Biology: bacterial host-pathogen interactions involving Chlamydia trachomatis and polymicrobial interactions of cystic fibrosis infections.
-  ❑ Microbiology/Molecular Biology: understanding the molecular mechanisms of calcium (Ca2+) signaling in bacterial physiology.
-  ❑ Biology: factors affecting of sound processing including how changes that occur to the brain affect auditory processing
-  ❑ Biology: use physiology, behavioral ecology and evolutionary biology to understand proximate mechanisms and evolutionary consequences of life history trade-offs.
Eligibility Confirmation

Are you a U.S. citizen or Permanent Resident or a DACA recipient? *
- [ ] Yes
- [ ] No

Are you on good academic standing (not on any type of academic or disciplinary probation)? *
- [ ] Yes
- [ ] No

Do you plan to pursue a Ph.D., M.D., or M.D./Ph.D.? *
- [x] Yes
- [ ] No; another scientific career path
- [ ] No
2 essays

725-750 words each
Check the box to confirm that everything you have entered in this application is true and accurate to the best of your knowledge. *

I confirm.

Applications Due February 19th
WHAT QUESTIONS DO YOU HAVE?
Contact us!

Dr. Rachael Eaton
Email: rachael.eaton@okstate.edu