TxBDC Research Program

Thank you for your interest in the Texas Biomedical Device Center Research Program!

Participating in the TxBDC Research Program is an excellent way to strengthen your academic experience. Everyone who participates in the lab is contributing to the collection of data which is used to discover new scientific findings and helps set you on a path to success. Gain exposure to cutting-edge real world laboratory research through hands-on participation in the TxBDC labs. TxBDC Researchers are invited to join science and/or engineering research teams, participate in laboratory based research activities, participate in development and deployment of real-world medical devices and applications, and be included in scientific publication(s) as project timing and effort levels allow, all while pursuing your academic career and interests.

How do I Apply?

Graduate students funded by TxBDC are automatically accepted into the TxBDC Research Program. For all others, applications for acceptance into the TxBDC Research Program can be found here:

[TxBDC Research Program Application](#) Once you have completed the application, please send a copy of your resume to txbdc_scholarships@utdallas.edu. We strongly encourage you to include a letter of interest describing your research interests and goals with your resume.

Applications to join the program are accepted on a rolling basis for each semester based on the schedule below.

- Joining for the Summer and Fall Semester - Applications will be accepted starting April 1st
- Joining for the Fall Semester - Applications will be accepted starting August 1st
- Joining for the Winter Break and Spring semester- Applications accepted starting November 1st.
- Joining for the Spring semester - Applications accepted starting November 1st

Please make sure to have your class schedule ready for the semester of interest before applying.

Selected candidates will be contacted to schedule an interview with TxBDC research team(s) aligned with your academic program and/or research goals.

Successful candidates will be sent a TxBDC Research Program packet with all the information needed to complete laboratory safety training, obtain building access, and join the TxBDC team.

Once in the program for at least 3 semesters, participants are eligible to apply for the TxBDC Research Scholarship. Students who have participated for 5 or more semesters may be eligible for the TxBDC Advanced Research Scholarship. Applications for TxBDC Research Scholarships and TxBDC Advanced Research Scholarships are found at the link below and must be received by the following dates for consideration:

- Summer and Fall – April 1
- Spring – December 1

[TxBDC_Research_Scholarship_Applications](#)

TxBDC Research Program

Program Participation:

All TxBDC Researchers spend their first semester, or partial semester, participating as a volunteer lab member orienting and assisting with research activities in the TxBDC general laboratories as well as their assigned laboratory/team(s).

Volunteer Lab Member

Enhance your academic experience by gaining experience and exposure to several aspects of TxBDC research. Learn the basics and fundamentals of various components of research while rotating through at least three of TxBDC's primary functions including your assigned laboratory/team, microconstruction, surgery, software development, hardware development, and regulatory affairs.

- Weekly participation in the lab throughout the semester or partial semester
- Minimum commitment of 9 hours per week is requested to ensure TxBDC Researchers gain the training and exposure needed to create a value added academic experience
- Students contributing 9 hours or more per week will have schedule priority. Those regularly participating in fewer than 9 hours may be dismissed from the program.

[COVID-19 UPDATE: The following requirement to take research credit hours is currently waived due to limited access to research laboratories.

Research for credit opportunities remain available to existing TxBDC Researchers but are limited to students who can remotely complete meaningful contributions to existing projects. Requests must be reviewed on a case by case basis PRIOR to enrollment.

TxBDC Researchers interested in taking research for credit should reach out to their PhD student or Post Doc to discuss remote project options. If a remote project contribution opportunity is identified, the PhD student or Post Doc should present the research plan to the project PI.

The student should only submit documentation to enroll in research for credit AFTER the PI has agreed the research plan is possible from a remote setting.]

Following the first semester, all TxBDC Researchers are required to enroll in at least 1 research credit hour per semester excluding summer semesters. After 6 credit hours, students will have the option to continue taking research for credit or choose to participate in lab for no credit. This is to allow students the opportunity to pursue other courses without reaching a limit of semester credit hours (SCH) for independent study. Note: TxBDC funded graduate students become eligible for TxBDC Research Program Graduate Student Scholarships their first semester in the program. See below for additional research credit hour requirements for participation in the research scholarship and paid student worker programs.

TxBDC Research Program

Research Credit Hours

Description based on course enrollment and field of study

- Requires at least one previous semester of volunteer lab member participation within the program
- Each credit hour of enrollment requires four hours of laboratory participation per week.
- Credits available and research requirements are program dependent – check with your advisor for specific requirements before enrolling
- Students are required to take research credit until they have received six credits with our program. From there, taking lab for credit is optional.

After at least three semesters in the program, TxBDC Researchers are eligible to apply for TxBDC Research Scholarships or paid Student Worker Positions:

Research Scholarships - Due to funding limitations, not all students meeting the minimum requirements may be awarded a scholarship

Applications for TxBDC Research Scholarships must be received by the following dates for consideration:

- Summer and Fall – April 1
- Spring – November 1

TxBDC Research Scholarship I ($100)

Obtain greater exposure and responsibility as you participate as a member of one or more of TxBDC's research teams

- Requires at least three previous semesters of participation within the program.
- GPA must be at least 2.5 to submit an application
- Non-competitive, acceptance is automatic on completion of the Research Scholarship application
- Must have or be enrolled in at least 3 research credit hours with a TxBDC advisor **[COVID-19 Update: The research credit hour requirement is waived until further notice]**
- Requires 12-19 hours/week participation in research activities for one complete semester

TxBDC Research Scholarship II ($250)

Obtain greater exposure and responsibility as you participate as a member of one or more of TxBDC's research teams

- Requires completion of TxBDC Research Scholarship I or equivalent[1] previous participation in the program
- Must have or be enrolled in at least 3 research credit hours with a TxBDC advisor **[COVID-19 Update: The research credit hour requirement is waived until further notice]**
- Requires 12-19 hours/week participation in research activities
- May be repeated as desired

Due to funding limitations, not all students meeting the minimum requirements may be awarded a scholarship.

TxBDC Research Program

Advanced Research Scholarships - Due to funding limitations, not all students meeting the minimum requirements may be awarded a scholarship

Applications for TxBDC Advanced Research Scholarships must be received by the following dates for consideration:
- Summer and Fall – April 1
- Spring – November 1

TxBDC Advanced Research Scholarship I ($500)

Participate as a valued member in responsible charge of one or more aspects of TxBDC research
- Competitive, entry requires application and acceptance into the TxBDC Advanced Research program
  - Minimum 3.0 GPA
  - Requires completion of TxBDC Research Scholarship II or equivalent[1] previous participation in the program
- Must have at least 6 research credit hours with a TxBDC advisor
  [COVID-19 Update: The research credit hour requirement is waived until further notice]
- Requires 12-19 hours/week participation in research activities for one semester

TxBDC Advanced Research Scholarship II ($750)

Participate as a valued member in responsible charge of one or more aspects of TxBDC research
- Requires completion of TxBDC Advanced Research Scholarship I or equivalent[1] previous participation in the program
- Requires 12-19 hours/week participation in research activities

TxBDC Advanced Research Scholarship III ($1000)

Participate as a valued member in responsible charge of one or more aspects of TxBDC research
- Requires completion of TxBDC Advanced Research Scholarship II or equivalent[1] previous participation in the program
- Requires 12-19 hours/week participation in research activities

TxBDC Advanced Research Scholarship IV ($2000)

Participate as a valued member in responsible charge of one or more aspects of TxBDC research
- Requires completion of TxBDC Advanced Research Scholarship III or equivalent[1] previous participation in the program
- Requires 12-19 hours/week participation in research activities
- May be repeated as desired

TxBDC Research Program

TxBDC Research Program Graduate Student Scholarships *- Due to funding limitations, not all students meeting the minimum requirements may be awarded a scholarship*

Appointments for TxBDC Research Program Scholarships are accepted on a rolling basis. Candidates are eligible for a maximum of one award per semester

TxBDC Research Program Graduate Student Scholarship ($1,350)
> Participate as a valued member in responsible charge of one or more aspects of TxBDC research
> - Requires participation in a PhD program under the advisement of one or more TxBDC PIs
> - Must be appointed as an RA or TA for the current semester
> - Requires appointment from the graduate student's advisor

TxBDC Paid Student Worker / Summer Internship / Work-Study
> Manage a team of TxBDC Researchers, coordinate supply and equipment availability, and perform other lab based duties as assigned while you work as a member in responsible charge of one or more aspects of TxBDC research
> - Positions only offered when funding is available and are not guaranteed from semester to semester
> - Requires at least 1 previous semester of participation within the program
> - Requires 9-19 hours/week participation in research activities
> - Must have at least 6 research credit hours with a TxBDC advisor
>   **[COVID-19 Update: The research credit hour requirement is waived until further notice]**
> - [SUMMER OPTION] Prior to graduation, students not enrolled in summer courses may compete for a summer internship allowing up to 40 hours/week participation. Student workers not selected for the summer internship option will be limited to 20 hours/week participation.
> - By application and competitive selection only
> - Earn $10-$15/hr. based on qualifications
> - Work-Study positions are available to students with Work-Study allotted in their Financial Aid Packages
> - Work-Study students' combined employment and semester hours cannot exceed 40 hours per week

Every TxBDC Research Program option provides our students with opportunities to:
- Enhance their academic pursuits through immersive laboratory/engineering/regulatory experiences
- Become a part of cutting-edge science/engineering/regulatory research teams
- Participate in hands-on laboratory based research activities
- Be included in publication(s) if project timing and effort levels allow
- Participate in value added training and teambuilding exercises as a member of the TxBDC Team

TxBDC Research Program

General Program Path:

Once accepted, each TxBDC Researcher can expect to rotate through at least 3 major components of the TxBDC labs to help identify where their individual interests and strengths lie. Rotation schedule and frequency will vary by participant; however, rotations are expected to include at least three aspects of the following:

1. Assigned Laboratory/Team
    a. Participate in research or development activities aligned with their area of interest
    b. Observe and learn specialty specific technologies and techniques
    c. Become a member of a team
2. Microconstruction
    a. Gain exposure to TxBDC technologies used throughout the labs
    b. Learn microscope techniques
    c. Demonstrate ability to understand and follow direction as well as work independently
3. Surgery
    a. Observe TxBDC technologies and techniques
    b. Build an understanding and respect for the animals involved
    c. Learn and practice surgical techniques
4. Software development
    a. Develop and test software packages for real world application
    b. Document development process for real world implementation
5. Hardware development
    a. Develop and test medical device hardware
    b. Document development process for real world implementation
6. Regulatory Affairs
    a. Research and compile regulatory records for IRB and FDA submissions
    b. Participate in the medical device development/testing process from a regulatory perspective

TxBDC Researchers are encouraged to pursue their academic and career interest. Further rotation and/or reassignment to other areas within the labs may be available upon request.

TxBDC Research Program

Application Review Criteria:

TxBDC Research Program applications as well as Advanced Research Scholarship and Student Worker applications will be preliminarily reviewed as follows:

1. Must be accepted at UT Dallas and registered for class for the semester of application
2. Undergraduate students must be enrolled in at least 12 hours (full time)
3. Non-TxBDC funded graduate students must be enrolled in at least 9 hours (full time)
4. TxBDC funded graduate students must be enrolled for at least 1 hour in the current semester
5. Completeness of application
    a. Preference will be given to applications that were complete upon initial submission.
    b. Applicants may be asked to submit additional information one time following initial submission. Applications incomplete after the follow-up will not be considered.
6. Minimum GPA of 2.5 or minimum 3.0 HS GPA if no college credits have been earned. Preference will be given to applicants with higher GPAs

Applications passing initial review will be forwarded to the research team(s) best aligned with each student's area of study and interests as identified within the application materials. Once with the appropriate research team(s), applications will be ranked as follows:

7. Program Performance to Date (for Advanced Scholarship and Student Worker placements)
    a. Preference will be given to students who show availability, initiative, demonstrate maturity, interact in a collegial manner, and have a record of exercising precision and accuracy in performance of their duties
    b. Students with a history of poor performance or non-reliability will not be considered
8. Area of Study
    a. Preference will be given to students majoring in neuroscience or bioengineering
    b. Secondary preference will be given to students majoring in other science or engineering areas
    c. Students not studying science or engineering may be asked to provide a written statement describing their goals for participation in the program as well as their career aspirations
9. Coursework
    a. Preference will be given to students who have completed or are currently enrolled in neuroscience or bioengineering courses
    b. Secondary preference will be given to students who have taken or are currently enrolled in science, engineering, or other relevant courses
    c. Students with no science, engineering or related courses may be asked to provide a written statement describing their relevant experience
10. Cover letter or written statement (where applicable)
    a. Preference will be given to students interested in pursuing career paths aligned with the TxBDC mission
    b. Preference will be given to students with strong written communication skills
11. Interview
    a. Students must confirm availability to participate at least 9 hours per week to be considered
    b. Preference will be given to students who demonstrate maturity, interact in a collegial manner, and engage with the interviewer

TxBDC Research Program

Award and Placement:

TxBDC aims to ensure all Researchers receive value added experience to supplement their academic and career interests. Program placements will only be offered commensurate to TxBDC's ability to properly supervise and engage each TxBDC Researcher during the laboratory experience.

Applications are accepted and reviewed against program research, staffing, and funding availability on a first come first served basis; and most placements are made near the beginning of each semester. Applicants are encouraged to apply within the timelines provided.

Once a decision has been rendered, applications for non-awarded candidates are not retained for future consideration. Applicants must re-apply in order to be re-considered for the TxBDC Research Program.

The number of TxBDC Researchers that will be accepted into the program or placed each semester is based on the total amount of research being conducted, the nature of research being conducted, the number of graduate student and post doc mentors available, the amount funding available (for positions with awards or pay), the experience level of each TxBDC Researcher, and the quality of new applicants. TxBDC Research Program placements will be made with the intent to best align student's academic, research, and career interests with available research projects.

Placement Priority:

Where there are more TxBDC Researchers/applicants interested than research and mentorship to nurture and support the interest, appointments will be made by priority as follows:

1. TxBDC Researchers returning from the previous semester
   a. TxBDC funded graduate students are placed first
   b. Advanced Research Scholars are placed second
   c. Research Scholars are placed third
   d. Remaining placements are made based on number of semesters each individual has completed
2. Previous TxBDC Researchers requesting to return after a period of absence.
   Placements are made based on number of semesters each individual has completed.
3. New applicants in order of rank.
4. When more research opportunities exist than TxBDC Researchers/applicants to participate, TxBDC Researchers/applicants who were not able to be placed in their area of interest may be offered placement in areas outside their primary interest.

Continued placement after each semester of the program is our goal but is not guaranteed.