



**NSF Research Traineeship
in the Sustainable Development of
Smart Medical Devices (SUSMED)**

NRT SUSMED PROGRAM REQUIREMENTS

The objective of the NRT SUStainable development of smart MEDical devices program (SUSMED) focuses on educating and empowering a diverse group of STEM graduate students to become proficient technical leaders capable of tackling the increasing societal demand for sustainable healthcare solutions. This initiative addresses two critical topics of the grand challenges in Engineering: (i) enhancing human healthcare via better medicines and (ii) reverse-engineering the brain, which still have many unresolved and ongoing challenges in medicine and healthcare, especially in available medical devices. All selected SUSMED trainees must participate and complete the following SUSMED-focused training components:

1. Trainee Workshop

All trainees must attend the workshop at the beginning of their first semester. This one-day workshop will introduce strategies for interdisciplinary work, finding a collaborator, aligning expectations in multidisciplinary teams, effective communication and listening skills, conflict resolution, and assessing teamwork.

2. Required Courses

The core curriculum will consist of three mandatory skills courses: an interdisciplinary project immersion course, a monthly seminar series, a communication skills course, and an annual research symposium. Each NRT SUSMED trainee is required to follow the curriculum, depending on their degree pursuits. These will form a strong and critical training community that spans beyond the NRT trainees. Each training element is open to non-NRT trainees at Georgia Tech and is sustainable beyond the end of the training program. These required courses are positioned to count toward degree fulfillment either as a required component of the student's curriculum or to satisfy their degree requirement for a minor.

Year	Semester	Courses
1	Fall	Smart Devices
	Spring	Sustainable Device Design
	Summer	Participatory and Inclusive Design Seminar (3-day workshop)
2	Fall	Technology, Ethics, and Human Value Course
	Spring	Methods of Academic Presentation Course
	Summer	Entrepreneurship Training
	All	MS Thesis research; Seminar Series; Research Symposium
3	All	Ph.D. Dissertation research; Seminar Series; Research Symposium
4	All	Ph.D. Dissertation research; Seminar Series; Research Symposium
5	All	Ph.D. Dissertation research; Seminar Series; Research Symposium

3. Annual SUSMED Research Symposium

Each year, our NRT program will organize an annual symposium, which will involve all NRT trainees and faculty advisors, as well as our advisory board, clinical partners, and outside representatives from the healthcare industry whose work and interests are relevant to our NRT initiative. The symposium will allow our trainees to gain valuable experience in giving academic presentations, asking questions of other presenters, and networking with peers and senior researchers. It will also present a forum where our faculty can make useful contacts to seed future collaborations with clinical partners and industry. We also see this event as a way of familiarizing the wider community with the research being conducted in our program.

4. Bimonthly SUSMED Seminar Series

As part of the training program, the NRT SUSMED will sponsor a bimonthly seminar led by NRT trainees, featuring activities such as hosting a speaker, followed by a social hour, to facilitate networking among distinguished speakers, faculty, and students and maximize training opportunities for the students. All NRT trainees are required to attend all seminars directly organized by SUSMED.

5. Trainee and Mentor Evaluations

All trainees and faculty mentors will submit evaluation forms based on programmatic rubrics every six months and an exit survey upon appointment termination and at graduation. These metrics provide important feedback to improve program outcomes.