Thank you for considering the Virginia Tech Carilion Research Institute for your graduate training. Our mission is to integrate the life sciences with the physical, engineering, behavioral, and social sciences to develop new approaches to preventing, diagnosing, and treating disease. Today, we have more than 35 faculty leading world-class research programs in neuroscience, cardiovascular science, cancer biology, infectious diseases, health behavior, and human development. Their work is published in leading high-impact scientific journals and recognized with numerous honors and awards.

Graduate students from a range of backgrounds have the opportunity to train with the Institute’s scientists in both basic and applied biomedical and health science research. Students are encouraged to cross conventional disciplinary boundaries and work within research teams to seek innovations and discoveries. It is in this collaborative and multidisciplinary environment that we are tackling some of today’s key global health challenges, and in which our students grow to become experts in the increasingly interdisciplinary world of biomedicine.

In addition to their research, students attend a variety of lectures and seminars given by visiting scientists and clinicians at the Institute and the Virginia Tech Carilion School of Medicine, including the Institute’s Distinguished Scholars Series, which brings the world’s leading researchers and scientific thought leaders to Roanoke. Opportunities abound to partner with our clinical colleagues at Carilion Clinic and to engage regional biotechnology organizations and companies to move discoveries toward development and application.

Outside the lab, our students enjoy an affordable lifestyle, along with the wonderful offerings of Roanoke and the New River Valley. Roanoke is a bustling small city, packed with festivals, arts events, organized recreational activities, and endless outdoor pursuits among the region’s pristine mountains and waterways. Virginia Tech’s Blacksburg campus provides additional opportunities for involvement in student organizations and activities.

We encourage prospective students with strong backgrounds in the physical, life, engineering, mathematical, computational, or behavioral sciences—and a passion for being on the leading edge of research—to contact us to learn more. We look forward to hearing from you.

Audra Van Wart, PhD
Director of Education and Training
Virginia Tech Carilion Research Institute
Be a Part of Research that Leads to Cures

Virginia Tech Carilion Research Institute scientists are inventing the future of biomedical research. The Institute's highly creative and interdisciplinary research environment enables them to develop innovative strategies for preventing, diagnosing, and treating major health challenges, from autism to heart disease to traumatic brain injury.

Among the Institute's areas of focus are:
- the neurobiology of brain development, aging, and plasticity, with an emphasis on learning and memory;
- functional magnetic resonance imaging to understand behavior and social cognition in children and adults;
- ultrasound neuromodulation of brain function;
- novel cancer therapeutics;
- computational psychiatry and biology;
- molecular virology;
- substance abuse and addiction;
- sensory processing;
- the molecular genetics of developmental disabilities;
- the structural biology of macromolecules;
- neurorehabilitation in children and adults; and
- the development of enhanced nanoscale imaging reagents and technologies.

More than 130 faculty members, postdoctoral fellows, and graduate students from leading institutions work at the Institute, which shares a state-of-the-art, award-winning 150,000-square-foot building with its affiliated medical school, the Virginia Tech Carilion School of Medicine. The Institute hosts the world’s premiere human functional neuroimaging facility, which serves as the hub of a global interactive human functional magnetic resonance imaging network. It also has world-class facilities for molecular, genetic, cellular, and behavioral research; major laser-based optical imaging and high-resolution molecular imaging facilities; and large-scale computational clusters for modeling, simulations, and analysis of large-scale molecular, genomic, biophysical, behavioral, imaging, and population-based data.

Students earning their doctorates through mentorship at the Institute receive full tuition, a minimum annual stipend of $25,000, health insurance coverage, and professional travel support. They also benefit from the opportunity to work closely with leading faculty researchers in a dynamic academic medical setting along with other doctoral students, postdoctoral fellows, medical students, and medical residents.

Degree Programs

Carry out research with Virginia Tech Carilion Research Institute faculty members while earning a doctorate from Virginia Tech in one of the following departments:

- Biochemistry
- Biological Sciences
- Biomedical Engineering and Sciences
- Biomedical Sciences and Pathobiology
- Chemistry
- Electrical and Computer Engineering
- Physics
- Psychology

The Virginia Tech Carilion Research Institute joins the basic science, life science, bioinformatics, and engineering strengths of Virginia Tech with the medical practice and medical education experience of Carilion Clinic.

Admissions Information

Students wishing to perform their doctoral research with Virginia Tech Carilion Research Institute faculty must apply through one of the doctoral-degree programs at Virginia Tech. To learn more about our faculty and their affiliated programs, visit info.vtc.vt.edu/phd.

Applicants must have a baccalaureate degree or the equivalent of a U.S. four-year degree from a regionally accredited institution. To apply, submit a completed application, official transcripts from all institutions where you earned a bachelor’s degree or undertook graduate-level work, and a nonrefundable application fee. Individual departments may also require letters of recommendation, a curriculum vitae, and an official report of GRE test scores.

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