NEW YORK INSTITUTE OF TECHNOLOGY

College of Osteopathic Medicine

Research Opportunities

Participate in medical research and advancements that change lives. By joining the research enterprise at New York Institute of Technology College of Osteopathic Medicine, you'll have multiple opportunities to engage in ground-breaking research as part of—or in addition to—your medical school curriculum.

NYITCOM has recruited internationally renowned faculty researchers who immerse our students in an environment of discovery, thanks to state-of-the-art technology and research equipment at both the Long Island and Jonesboro campuses. Research by NYITCOM faculty members is funded by the National Institutes of Health, National Science Foundation, and many others. Through this funding, faculty and students work together on critical research projects—ranging from basic biology to clinical studies to policy work—that have a great impact on patient care, science, and medicine.

Whether you choose to work on research during our summer research program, through special fellowship programs, or in the research-intensive seven-year D.O./Ph.D. program, you'll work in collaborative, team-focused, cross-disciplinary environments. Faculty mentors will help you identify your area of interest and find research projects at NYITCOM that align with your passion while supporting the development of your critical thinking, problem solving, and presentation skills. This rewarding professional experience—which often includes sharing important research outcomes at major national and international conferences and in peer-reviewed scientific and medical journals—will advance your career as a researcher and help you stand out among your peers.

NYITCOM Office of Admissions

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Here are just a few examples of the groundbreaking research taking place at NYITCOM:

Cancer Biology

Seven students worked on research that could result in more effective, less toxic treatments for some of the deadliest cancers. Their report, published, in the journal *Cancers*, provides a wide-ranging scientific review of 215 studies on the biological processes that enable certain cancers to spread.

Cardiovascular Biology

Risa Kiernan, a student in NYITCOM's Academic Medicine Scholar program, has secured a competitive Scholarship in Cardiovascular Disease from the American Heart Association. Working with a faculty mentor, she is studying the link between obesity and hypertension in females.

Randy Stout, Ph.D., is using an American Thyroid Association research grant for his project "Single-Cell Optical Detection of T3 Availability," utilizing bioengineering and microscopy to identify new therapies for brain and heart dysfunctions that occur in hypothyroidism.

Olga V. Savinova, Ph.D., assistant professor of biomedical sciences, is using a five-year, $1.8 million grant from the NIH National Heart, Lung, and Blood Institute on research to improve the understanding of atherosclerosis and deliver a new treatment for heart disease.

Computational Biomechanics and Motor Control

Five students participated in research with New York Tech's Center for eSports Medicine which, was published in *BMJ Open Sport & Exercise Medicine*. The project evaluated whether walking and rest breaks can benefit e-athletes' processing speed and executive function.

Degenerative Diseases, Sports Medicine, and OMM

In fall 2021, 20 students shared their research abstracts at the national OMED conference. Third-year student Mahima Mangla was awarded first place in the Student Research Poster Competition for her project, "Assessing Usage and Perceptions of Osteopathic Manipulative Treatment and Self-Identity Among Osteopathic Physicians."

Two members of the M.S. in Biomedical Sciences program, Tija Passley and John Purcell, worked with faculty researchers to publish a paper titled "Early-Onset Parkinson's Disease With Multiple Positive Intraoperative Spinal Tissue Cultures for Cutibacterium acnes" in *Cureus Journal of Medical Science*.

Evolution and Development

Medical student Christopher Hanna is working with NYITCOM's internationally renowned anatomy researchers to explore the evolutionary origins of gait using bio-inspired robotics.

Third-year students Sylvia Marshall and Mariel Bedell and second-year student Scott Landman are working with Aki Watanabe, Ph.D., assistant professor of anatomy, to answer one of the most enduring questions in biology—what drives phenotypic evolution? His research, which employs a synthesis of embryology, high-resolution 3-D imaging, statistical shape analysis, and programming, is funded by a prestigious Faculty Early Career Development Program award from the National Science Foundation.

Research published in *The Journal of Experimental Biology* by Nathan Thompson, Ph.D., associate professor of anatomy, suggests that human strides are considerably shorter than that of our nearest evolutionary species—chimpanzees.

Evolutionary biology expert Brian Beatty, Ph.D., associate professor of anatomy, was among 22 international researchers who contributed to a study (the largest of its kind) published in Science Advances revealing how the relative brain size of mammals has changed over the past 150 million years.

Neurobiology and Sensory Evolution

Second-year student Chun Wa Wong is working on a project funded by a grant from the NIH to Weikang Cai, Ph.D., assistant professor of biomedical sciences. This project, which studies the effect of chronic stress on brain chemistry and neurobehavioral parameters, will provide insight into how chronic stress impacts clinical depression.

Another second-year student, Marisa Wong, participated in related research as part of the 2021 Summer Research Program. Her research assessed insulin treatment on the progression of Alzheimer's Disease.

Student Sammi Wong, who is conducting research on the use and integration of technology in mental health care services, recently developed a tele-mental health software platform called Orchid.

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