

Department of **Biomedical Informatics**

> dually housed in the **School of Medicine** and in the

College of Engineering and Applied Sciences

Our students have access to resources in both schools, under faculty with joint appointments whose research has gained national and international recognition and major extramural funding. Instruction combines classroom teaching, cooperative learning such as Hackathons, and projects that allow exposure to different aspects of Biomedical Informatics.

Graduates can expect careers in academia, research institutions, hospitals, industry, or government.

PLACE STAMP HERE

Department of Biomedical Informatics

Stony Brook University

HSC L3-043

Stony Brook, NY 11794-8322



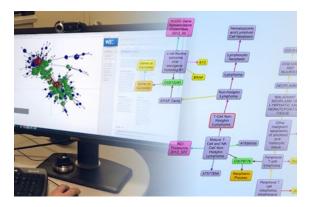
Graduate Programs in **Biomedical Informatics**

Doctor of Philosophy (PhD)

Master of Science (MS)

Advanced Graduate Certificate





What is Biomedical Informatics?

Biomedical Informatics is an interdisciplinary field that studies and pursues the effective use of biomedical data, information and knowledge for scientific inquiry, problem solving and decision making, driven by efforts to improve human health. [AMIA.org]

Why do Stony Brook's BMI Programs stand out?

Biomedical Informatics Graduate Programs reflect the emergence of BMI as a core component of modern technology and data intensive healthcare, responding to intense pressures in both the Academic and Industrial components of this sector.

With this environment in mind, we embed BMI Education in research and operations at a Medical Center, where Quantitative Sciences have emerged at the very core of efforts to understand, prevent and treat disease. Further, our program emphasizes the ability of trainees to produce software artifacts and conduct computational experiments, along the same lines as Computer Science and Engineering (CSE).

This approach to Data Science equips BMI graduates to play a new role in a Systems Biomedicine enterprise that spans from patient-centric information systems to the distributed analytics needed to contextualize emerging biomolecular Big Data resources.

Degree Tracks

The graduate programs offered by the Stony Brook University Department of Biomedical Informatics emphasize the translation of knowledge into practical use in three areas of specialization. The American Medical Informatics Association, (AMIA.org), the leading national organization for Biomedical Informaticians, defines these three tracks:

Clinical Informatics

The application of informatics and information technology to deliver healthcare services. Topics include clinical decision support, visual images (e.g. radiological, pathological, dermatological, ophthalmological, etc.), clinical documentation, provider order entry systems, and system design, implementation and adoption.

Imaging Informatics

Improves patient outcomes through the effective use of images and imaging-derived information in research and clinical care. Spanning the scale from microscopic and molecular to whole body visualization, developments in the field have implications in diagnosing disease, optimizing treatment, tracking disease response, and predicting outcomes. Addresses the growing quantity and complexity of image data by applying machine learning, natural language processing, semantic representation and computer reasoning.

Translational Bioinformatics

Development of storage, analytic, and interpretive methods to optimize the transformation of increasingly voluminous biomedical and genomic data into proactive, predictive, preventive, and participatory health. Includes research on the development of novel techniques for the integration of biological and clinical data and the evolution of clinical informatics methodology to encompass biological observations. The end product of translational bioinformatics is new knowledge that can be disseminated to stakeholders, including biomedical scientists, clinicians and patients.

Requirements

Admission and degree requirements are detailed in the SBU Graduate Bulletin:

http://sb.cc.stonybrook.edu/gradbulletin/current/





Apply to BMI

Information and a link to the "Apply Yourself" online application:

https://www.grad.stonybrook.edu/ ProspectiveStudents/app_info.shtml

Contact Us

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