

UIT RESEARCH TECHNOLOGY SERVICES

University Information Technology (UIT) delivers to the Tufts community information technologies that facilitate teaching, learning, research, administration, and outreach.

UIT Academic Technology enables the university and its diverse academic communities to realize their vast potential in teaching, learning, and research through the innovative design and meaningful integration of technology to meet broad and local goals.

Research Technology Infrastructure

- **Research High Performance Computing:** For researchers in need of computing power, we currently offer a new IBM 50-node cluster with 400+ 64-bit cores (Red Hat Enterprise Linux 5, 16 to 32GB RAM per node, Infiniband interconnect). This central service is offered at no cost to clients. A form needs to be completed to request a cluster account. Go to <http://go.tufts.edu/cluster> for more details.
- **Research Storage:** Researchers who need backed-up network-accessible storage for their research data can ask for storage shares from 50GB to 1TB and beyond. This is exclusively for research storage and it does not overlap with existing personal (P:) and departmental (Q:) drives where non-research documents should be stored. This central service is offered at no cost to clients. A form needs to be completed to request research storage (<http://researchstorage.uit.tufts.edu>).
- **Software Licensing:** We provide many commercial software packages on our research cluster (Abaqus, Ansys, Comsol, Deform, Fluent, Maple, Materials Studio, Matlab, Mathematica, and Stata), as well as network concurrent licensing for the desktop on a per product basis. This central service is offered at no cost to clients. If software needs to be run on the cluster rather than on a desktop, a cluster account will be needed and a form needs to be completed to request a cluster account.

Research Technology Tools

- **Tools for Visualization:** The Tufts Center for Scientific Visualization was inaugurated in 2008 (see <http://sciviz.tufts.edu> and <http://www.tufts.edu/home/feature/?p=visualization>). Using a dedicated graphics workstation, this new facility allows researchers to display stereo high-resolution images (4096x2160) on a 15ft x 8ft screen using either Red Hat Linux Enterprise 5 (64-bit), Windows XP Professional (32-bit) or Windows XP 64-bit. Users can also bring their personal laptop and display their images at a quarter of the max resolution (2048x1080). In order to access this facility, each user will be given card access and an R25 account for scheduling. In addition, each new user will be required to complete a one-hour training session. This central service is offered at no cost to clients.
- **Tools for Bioinformatics:** Bioinformatics incorporates techniques from multiple disciplines to solve biological problems in areas that include applied mathematics, informatics, statistics, and computer science. Tufts UIT Bioinformatics Server can also support open-source research codes. We offer two bioinformatics services: a gene sequencing package Emboss/wEmboss (<http://emboss.uit.tufts.edu/>) and a micro-array analysis server (<http://carmaweb.uit.tufts.edu>); this latter service has been developed in collaboration with Professor Iyer from Tufts Center for Neuroscience Research (CNR). This central service is offered at no cost to clients.

- **Tools for Collaboration:** An Access Grid videoconference node is installed in the Tufts Center for Scientific Visualization. The Access Grid is an ensemble of resources including multimedia large-format displays, presentation and interactive environments, and interfaces to Grid middleware and to visualization environments. These resources are used to support group-to-group interactions across the Grid. This central service is offered at no cost to clients.

Research Consulting Services

- **Statistical Consulting:** UIT Academic Technology Services provides statistical consulting assistance to faculty and graduate students for both research technology and instructional projects. This central service is offered at no cost to clients.
- **Technology Consultation and Planning:** UIT Academic Technology Services assists faculty and departments with research, information, and recommendations concerning appropriate technologies for research. This central service is offered at no cost to clients.
- **Monitoring, design, implementation and application of emerging technologies for research applications:** UIT Academic Technology Services constantly investigates how Tufts researchers can excel in their fields by leveraging new technologies. This central service is offered at no cost to clients.

Geographic Information Systems

- **GIS Center:** UIT Academic Technology Services manages GIS services across the Tufts campuses, including the GIS Center, located in the Tisch Library, which provides access for the Tufts community to the latest GIS technology. See <http://gis.tufts.edu> for details.
- **Instructional and Research Services:** At the GIS Center and throughout the university, UIT Academic Technology Services offers several GIS-related services including GIS training for faculty and students through workshops and courses, assistance with incorporating GIS modules into Tufts' courses, and individual and project-based research consulting.
- **Specialty Services:** UIT Academic Technology Services also provides specialty services such as map design, geo-processing, spatial analysis, application development, data conversion and development, software licensing, etc.