NORTHWESTERN UNIVERSITY OFFICE FOR RESEARCH
SHARED AND CORE FACILITIES AT NORTHWESTERN
STRENGTH AT THE CORE

NORTHWESTERN UNIVERSITY
Northwestern’s Shared and Core Facilities

Research is a top priority at Northwestern. Core facilities are a pivotal part of the University’s research efforts, providing resources that allow groundbreaking work to happen. Within these shared laboratories, researchers have the instrumentation and technical support to push forward discoveries that will shape the future of our nation and our world. Operating as fee-for-service facilities, most are available to external researchers as well. Please visit our website to learn more about NU core facilities: facilities.northwestern.edu.

Our Mission
Northwestern strives to be a national leader in research core facilities. Outstanding management is an important part of this goal and ensures that the facilities run smoothly, receive funding, and recruit the best and brightest scientists in the world.

The Office for Research oversees and supports more than 60 University core facilities on its Evanston and Chicago campuses as well as in partnership with Argonne National Laboratory and Northwestern Memorial Hospital. These facilities enable sharing of University resources that individual researchers would not otherwise be able to afford. Core facilities are created and directed by Northwestern faculty and supported by the University to meet the collective needs of its research community. While each core facility has a faculty advisory committee, additional committees serve advisory roles to the Office for Research.

External Customers
One institution alone cannot solve society’s biggest problems. To encourage new ideas through collaboration, Northwestern has a history of cooperating with external clients, including for-profit and nonprofit organizations. External users interested in instruments or services at one of our core facilities should visit our website — facilities.northwestern.edu/information-external-researchers — or contact the director or manager of the facility to inquire about availability. Uncertain about who to contact? Just visit our website and use the search function to look for people, instruments, and services.

Contact

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They call us “Nano U.” It’s a hard-earned nickname that Northwestern received for being at the forefront of the field of nanoscience. But nanoscience is just one of many areas of the groundbreaking chemical research at Northwestern. The University is a national leader in the field with expertise in all areas of chemistry, including physical/analytical, organic, inorganic, environmental/energy, materials/nanoscience, and biochemistry.

In addition to these disciplinary areas, the University supports numerous interdisciplinary institutes, centers, and core facilities focused on chemical discoveries that provide new knowledge and insights as well as practical benefits to society.

The interdisciplinary institutes and centers cover a broad range of topics, such as solar energy, nanotechnology, catalysis, drug discovery and development, biological chemistry, materials, and proteomics. The facilities and services are directed by world-renowned faculty and operated by PhD-level staff with expertise and experience in the relevant subject areas. Facilities and services are operated as fee-for-service, and some are available to external researchers (contact individual facilities to discuss your needs). Please visit the following website to learn more about these facilities and services: facilities.northwestern.edu.

Institutes and Centers
- Argonne-Northwestern Solar Energy Research Center
- Center for Cancer Nanotechnology Excellence
- Center for Catalysis and Surface Science
- Chemistry of Life Processes Institute
- Center for Developmental Therapeutics
- Center for Molecular Innovation and Drug Discovery
- International Institute for Nanotechnology
- Institute for Sustainability and Energy at Northwestern
- Materials Research Center
- Northwestern-Argonne Institute for Science and Engineering
- Northwestern Synchrotron Research Center @ Argonne
- Proteomics Center of Excellence
- Simpson Querrey Institute for Bionanotechnology in Medicine

Facilities and Services

Small Molecule Facilities
- Center for Advanced Molecular Imaging
- Clean Catalysis Core
- Computation, Modeling and Bioinformatics Center
- DuPont-Northwestern-Dow Collaborative Access Team @ Argonne
- High Throughput Analysis Laboratory
- Integrated Molecular Structure Education and Research Center
- Medicinal and Synthetic Chemistry Core
- NU Atomic and Nanoscale Characterization Experimental Center
- Quantitative Bioelemental Imaging Center

Large Molecule Facilities
- Cryo-Electron Microscopy
- Integrated Molecular Structure Education and Research Center
- Life Sciences Collaborative Access Team @ Argonne
- Proteomics Core
- Recombinant Protein Production Core
- SQI Peptide Synthesis Core
- Structural Biology Facility

Services
- Calibration Services (University Services)
- Cryogenics Facility
- Instrument Shop
- Laboratory Supplies (University Services)
- Lab Gases and Dry Ice (University Services)
- Storeroom (Purchasing Department)
ENGINEERING

Research Institutes, Centers, Facilities, and Services

Researchers at Northwestern’s McCormick School of Engineering and Applied Science are changing the world and crossing the boundaries of what we thought we knew. They are developing nanoscale cancer treatments and regenerative therapies for damaged nerves. They’re breaking boundaries in sustainable energy for transportation and building computer models of the global economy.

All this work is supported by numerous research institutes, centers, facilities, and services. The faculty and administration have developed interdisciplinary teams and an entrepreneurial spirit that fosters research in basic and applied forms.

Research programs include interdisciplinary initiatives in materials, medicine, energy and sustainability, transportation, networks, robotics, art and media, imaging, and healthcare. The facilities and services are directed by world-renowned faculty and operated by PhD-level staff with expertise and experience in the relevant subject areas. Facilities and services are operated as fee-for-service, and some are available to external researchers (contact individual facilities to discuss your needs). Please visit the following website to learn more about these facilities and services: facilities.northwestern.edu.

Institutes and Centers

- Center for Catalysis and Surface Science
- Center for Energy Efficient Transportation
- Center for Innovation in Global Health Technologies
- Center for Intelligent Processing of Composites
- Center for Photonic Communication and Computing
- Center for Scientific Studies in the Arts
- Center for Surface Engineering and Tribology
- Center for Quality Engineering & Failure Prevention
- Center for Quantum Devices
- Center for Commercialization of Innovative Transportation Technology
- Center for Ultra-scale Computing and Information Security
- Falk Center for Molecular Therapeutics
- International Institute for Nanotechnology
- Materials Research Center
- Motorola Center for Seamless Communication
- Nanofabrication and Molecular Self-Assembly
- Neural Engineering and Human-Robot Systems
- Northwestern Argonne Institute for Science and Engineering
- Northwestern Institute on Complex Systems
- NU Atomic and Nanoscale Characterization Experimental Center
- Simpson Querrey Institute
- The Segal Design Institute
- Transportation Center

Facilities and Services

- Central Laboratory for Materials Mechanical Properties
- Cryogenics Facility
- DuPont-Northwestern-Dow Collaborative Access Team @ Argonne
- Electron Probe Instrumentation Center
- High Resolution Electron Microscopy and Surface Structure Facility
- Instrument Shop
- Jerome B. Cohen X-ray Diffraction Facility
- Keck Interdisciplinary Surface Science Center
- Magnet, Low Temperature, and Optical Facility
- Materials Processing and Microfabrication Facility
- NU Center for Atom Probe Tomography
- NU Fabrication Facility
- Optical Microscopy and Metallography Facility
- Prototyping and Fabrication Lab
- Scanned Probe Imaging and Development Facility (formerly NIFTI)
- Surface Science Facility

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BIOMEDICAL
Preclinical Research Institutes, Centers, Facilities, and Services

From the genome to the proteome, Northwestern is fully invested in pushing the boundaries of biological sciences and has produced spectacular advances in our basic understanding of life processes and diseases of every kind.

The University has highly ranked preclinical research programs in molecular biosciences, neurobiology, cell and molecular biology, dermatology, microbiology-immunology, molecular pharmacology and biological chemistry, pathology, physical medicine and rehabilitation, physiology, and urology. Departmental programs are enhanced by interdisciplinary institutes, centers, facilities, and services aimed at facilitating fundamental discoveries and insights into mechanisms and processes underlying living systems.

Interdisciplinary institutes and centers cover a broad range of topics including drug discovery and therapeutics, proteomics, reproductive sciences, sleep and circadian biology, regenerative medicine, and nanobiology. Centers provide facilities and services that are directed by world-renowned faculty and operated by PhD-level staff with expertise and experience in the relevant subject areas. Facilities and services are operated as fee-for-service, and some are available to external researchers (contact individual facilities to discuss your needs). Please visit the following website to learn more about these facilities and services: facilities.northwestern.edu.

Institutes and Centers
- Chemistry of Life Processes Institute
- Center for Molecular Innovation and Drug Discovery
- Center for Developmental Therapeutics
- Center for Pharmacogenomics
- Center for Reproductive Science
- Center for Sleep and Circadian Biology
- Falk Center for Molecular Therapeutics
- Feinberg Cardiovascular Research Institute
- International Institute for Nanotechnology
- Proteomics Center of Excellence
- Simpson Querrey Institute for Bionanotechnology in Medicine

Facilities and Services

Biochemistry Cores
- High Throughput Analysis Laboratory
- Keck Biophysics Facility
- Life Sciences Collaborative Access Team @ Argonne
- Medicinal and Synthetic Chemistry Core
- Proteomics Core
- Recombinant Protein Production Core
- SQI Peptide Synthesis Core
- Structural Biology Facility

Consulting Cores
- Bioinformatics Core
- Biostatistics Core
- Computation, Modeling and Bioinformatics Center

Genetic Cores
- Genomics Core
- Next Generation Sequencing Facility
- NUgene
- Transgenic and Targeted Mutagenesis Laboratory

Imaging and Flow Cytometry Cores
- Biological Imaging Facility
- Center for Advanced Microscopy (Cell Imaging Facility)
- Center for Advanced Molecular Imaging
- Center for Translational Imaging
- Cryo-Electron Microscopy Facility
- Electron Probe Instrumentation Center
- Flow Cytometry Core Facility
- Quantitative Bioelemental Imaging Center

Tissue and Animal Phenotyping Cores
- Behavioral Phenotyping Core Facility
- Rodent (Preclinical) Technical Services
- Comprehensive Metabolic Core
- Human Embryonic and Induced Pluripotent Stem Cell Facility
- Mouse Histology and Phenotyping Laboratory
- Pathology Core Facility
- Skin Disease Research Center
- Sleep, Circadian and Other Rhythm Experiments Core

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MEDICINE
Clinical Research Institutes, Centers, Facilities, and Services

The high quality of medical care we enjoy today is built upon years of tireless effort by researchers and clinicians investigating the disease causes and potential treatments. While many terrible illnesses that once plagued society are now a faded memory, there is still much more work to be done. Northwestern Medicine is leading the way toward a better tomorrow.

Northwestern Medicine is a partnership between Northwestern University’s Feinberg School of Medicine and Northwestern Memorial HealthCare, the corporate parent of Northwestern Memorial Hospital (NMH), Northwestern Memorial Foundation, and Northwestern Lake Forest Hospital. This partnership shares a vision of transforming health care and being among the nation's top academic medical centers through innovation and excellence.

This vision is being realized through several nationally recognized research institutes and centers focused on enhancing the speed of biomedical discoveries and translating them into improvements in patient care. Many centers are home to state-of-the-art research facilities directed by faculty and staff with the technical expertise and experience necessary to guide novices as well as experienced investigators. Most facilities are operated as fee-for-service, and some are available to external researchers (contact individual facilities to discuss your needs). Unique services are the Research Navigators and Entrepreneurs-in-Residence who help researchers understand processes and procedures for translating their ideas into improvements in health care. Please visit the following website to learn more about these facilities and services: facilities.northwestern.edu.

Institutes and Centers
Bluhm Cardiovascular Institute
Center for Clinical Research
Center for Genomic Medicine
Center for Molecular Innovation and Drug Discovery
Center for Device Development
Institute for Public Health and Medicine
Northwestern Medicine Developmental Therapeutics Institute
NU Clinical and Translational Science Institute
Robert H. Lurie Comprehensive Cancer Center

Facilities and Services
Advanced Bioinformatics and Biocomputing Core
Behavioral Intervention Technology Development Core
Biostatistics Core Facility
Center for Translational Imaging
Developmental Therapeutics Core
Enterprise Data Warehouse
High Throughput Analysis Laboratory
Mary Beth Donnelley Clinical Pharmacology Core Facility
Matthews Center for Cellular Therapy @ NMH
Medicinal and Synthetic Chemistry Core
Microsurgery Core
Outcomes Measurement and Survey Core
Pathology Core
Research Bionutrition Services @ NMH
Research Laboratory Services @ NMH
Research Nursing Services @ NMH
SQI Equipment Core

Research Navigators
Think of them as your own personal research concierge. Provided by NUCATS, Research Navigators are experts to help you navigate through the wily landscape of clinical research. They are available in the areas of biomedical informatics, clinical research, education and career development, library services, community engagement and population health, preclinical research, and quantitative methods. Please visit the NUCATS website for more details: nucats.northwestern.edu.

Entrepreneurs-in-Residence (EIRs)
NUCATS, in partnership with the Innovation and New Ventures Office (INVO), Northwestern’s technology transfer office, supports EIRs in two areas: device and diagnostic development and drug development. EIRs are available to advise researchers on how to turn their inventions and discoveries into diagnostic and therapeutic agents. EIRs are experienced senior consultants in the design, discovery, preclinical and clinical development aspects as well as licensing and patenting processes. Please visit the NUCATS website for more details: nucats.northwestern.edu.

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