



# Northwestern's Shared and Core Facilities

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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](https://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 50 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](https://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.

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### CONTACT

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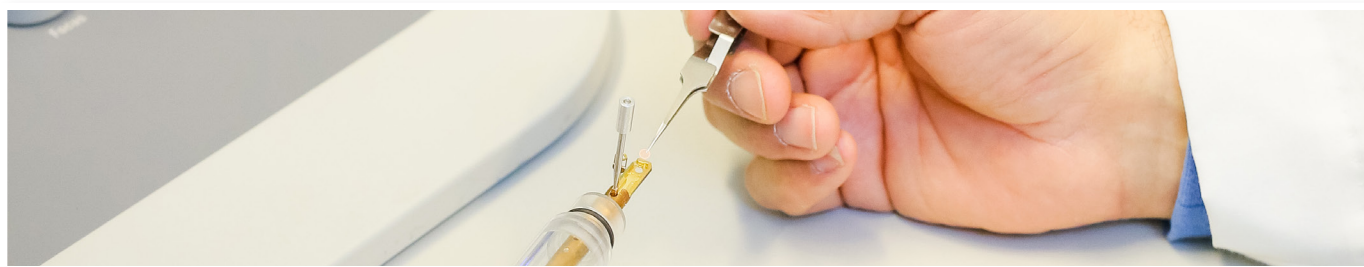
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## Northwestern | RESEARCH

Photos on the cover of the folder clockwise from top left: photo used courtesy of CAMI, photo by Veronica Hinojosa, photo used courtesy of NIFTI, photo used courtesy of Northwestern Medicine. Photos on the inside of the folder on top row, left to right: photo by Veronica Hinojosa, photo used courtesy of NUCAPT, photo by Veronica Hinojosa; Middle row, left to right: photo by Veronica Hinojosa, photo by Jeanine Shimer, photo by Veronica Hinojosa; Bottom row, left to right: photo by Veronica Hinojosa, photo by Veronica Hinojosa, photo used courtesy of Genomics.



# 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). Please visit the following website to learn more about these facilities and services:

**[facilities.northwestern.edu](http://facilities.northwestern.edu)**

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## 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

Biostatistics Collaboration Center  
Center for Translational Imaging  
Developmental Sciences Neurodevelopmental Resource Core  
Developmental Therapeutics Core  
Enterprise Data Warehouse  
FIRST-DailyLife Core Center for Clinical Research  
High Throughput Analysis Laboratory  
Mary Beth Donnelley Clinical Pharmacology Core Facility  
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

## 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](http://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](http://nucats.northwestern.edu).



# CHEMISTRY

Research Institutes, Centers,  
Facilities, and Services

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](http://facilities.northwestern.edu).

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## 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  
DuPont-Northwestern-Dow Collaborative Access Team @ Argonne  
High Throughput Analysis Laboratory  
Integrated Molecular Structure Education and Research Center  
Mary Beth Donnelley Clinical Pharmacology Core Facility  
Medicinal and Synthetic Chemistry Core  
NU Atomic and Nanoscale Characterization Experimental Center  
Quantitative Bioelemental Imaging Center  
Reactor Engineering and Catalyst Testing Core

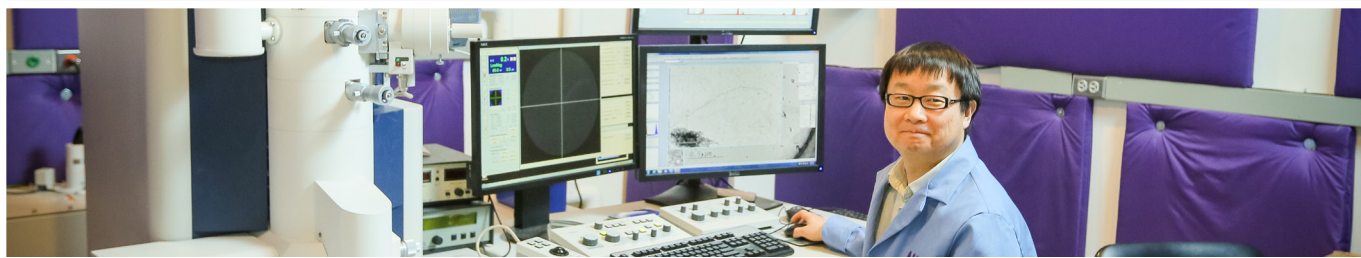
### *Large Molecule Facilities*

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

### *Services*

Calibration Services (University Services)  
Cryogenics Facility  
Research Shop  
Laboratory Supplies (University Services)  
Lab Gases and Dry Ice (University Services)  
NU Laser and Electronics Design Core  
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:

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## 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 Tribiology  
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  
Institute for Bionanotechnology in Medicine  
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  
The Segal Design Institute  
Transportation Center

## Facilities and Services

Bio-Cryo Core Facility  
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  
Jerome B. Cohen X-ray Diffraction Facility  
Keck Interdisciplinary Surface Science Center  
Materials Characterization and Imaging Facility  
NU Center for Atom Probe Tomography  
NUFAB  
Pulsed Laser Deposition Facility  
Research Shop  
Scanned Probe Imaging and Development Facility



# 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](http://facilities.northwestern.edu).

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## 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 Analytical BioNanoTechnology Core  
SQI Peptide Synthesis Core  
Structural Biology Facility

### *Consulting Cores*

Bioinformatics Core  
Biostatistics Collaboration Center

### *Genetic and Sequencing Cores*

NUSeq  
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  
Flow Cytometry Core Facility  
Quantitative Bioelemental Imaging Center

### *Tissue and Animal Phenotyping Cores*

Behavioral Phenotyping Core Facility  
Rodent (Preclinical) Technical Services  
Comprehensive Metabolic Core  
Stem Cell Core Facility  
Mouse Histology and Phenotyping Laboratory  
Pathology Core Facility  
Skin Disease Research Center