A GUIDE TO
BEGINNING YOUR RESEARCH AT CORNELL

Research Administration Support
2020
\[ V = \begin{pmatrix} a - c, b - d \end{pmatrix} \]
\[ \text{sh} x = e^x - e^{-x} \]
\[ \text{ch} x = e^x + e^{-x} \]
\[ w = c \cdot \text{ai} \]
\[ 1) \bar{x} + \bar{w} = \bar{x+w} \]
\[ 2) \bar{x} \cdot \bar{w} = \bar{x \cdot w} \]
\[ 3) x + \bar{x} = 2 \text{Re}(x) \]
\[ \cos \theta = \frac{x \cdot w}{|x| \cdot |w|} \]
\[ \text{sh} x = \frac{e^x - e^{-x}}{2} \]
\[ z = a + bi \]
\[ \bar{z} = a - bi \]
\[ z = |z| e^{i \theta} \]
\[ \text{sen} \theta = \frac{e^{i \theta} - e^{-i \theta}}{2} \]
\[ \tgh x = \frac{e^x}{e^x - e^{-x}} \]
\[ |z| > 0 \]
\[ |z| = 0 \quad \text{cu} \quad z = 0 \]
\[ |z + w| > |z| + |w| \]
These statements define Cornell’s world-class research, and you are at the heart of it all. As you establish your research program at Cornell, Research Administration Support (RAS) offers tools and services throughout the research management process to assist you.
SEARCHING FOR FUNDING
Sometimes federal agencies and private foundations limit the number of proposals for funding opportunities from an institution. Whenever this occurs, the Office of the Vice Provost for Research coordinates Cornell’s proposal selection.

You can find a list of the most common limited submissions and a discussion of how to submit your proposal to the internal selection process at https://researchservices.cornell.edu/resources/limited-submission-funding

You can also subscribe to the OSP listserv, https://researchservices.cornell.edu/resources/join-research-mailing-lists-list-serv to receive email announcements about upcoming limited-submission opportunities.
PLANNING AND SUBMITTING YOUR PROPOSALS
When planning your proposals, begin with your department or college research administration staff. They can help you with the proposal development, approval, and submission process.

**College of Agriculture and Life Sciences (CALS)**
https://cals.cornell.edu/faculty-staff/cals-support-sponsored-research/sponsored-research

If you are in CALS, submit your proposals through the CALS Research Office.
245 Roberts Hall / 607.255.8057

**College of Engineering**
https://www.engineering.cornell.edu/research-and-faculty/faculty/resources-faculty/research-administration

If you are in the College of Engineering, submit your proposals to the Research Administration Service Center.
220–221 Carpenter Hall / 607.255.0976 / rasc@cornell.edu

**College of Veterinary Medicine**
https://www.vet.cornell.edu/research/college-research-office

If you are in the College of Veterinary Medicine, submit your proposals here.
S3024 Schurman Hall / 607.253.3758

**Office of Sponsored Programs and Research Development (OSP)**
https://researchservices.cornell.edu/proposal/develop

If you are in Cornell’s other colleges, submit your proposals through OSP, the university’s central office. Grant and Contract Officers, known as GCOs, review proposals to ensure compliance with sponsor and Cornell requirements.
East Hill Plaza, 373 Pine Tree Road / 607.255.5014 / osp-help@cornell.edu

**Sharing Materials and Proprietary Information**
Sharing materials and proprietary information between Cornell and external collaborators is important for advancing Cornell research. OSP negotiates and signs Material Transfer Agreements (MTAs) and Non-Disclosure Agreements (NDAs) for material and data coming to Cornell for your work. If you need to send Cornell-owned material or Cornell proprietary information to your external collaborators, staff from Cornell’s Center for Technology Licensing (ctl.cornell.edu) can assist you.

**Research Development**
https://researchservices.cornell.edu/research-development

The mission of Research Development is to cultivate and implement programming to support and grow externally funded research of Cornell faculty at all levels. We provide research development activities that increase proposal competitiveness for large-scale, multidisciplinary grants, center grants, and training grants; help new faculty successfully launch their research careers; and identify diversified funding streams.

**Research Concierge Service**
The Research Concierge Service, managed by the Research Development team, offers individual consultations to help new faculty members develop their strategic research plans.
- Navigating Cornell’s research processes, requirements, forms, and systems
- Identifying and evaluating funding opportunities
- Connecting with institutional resources
- Sourcing potential collaborators
- Transferring existing grants from a previous institution
SIGNING PROPOSALS

Only grant and contract officers in the College of Agriculture and Life Sciences, College of Veterinary Medicine, or OSP can sign your proposals.

RESOURCES

Your department and GCO resources can help you:

- Find your GCO: https://researchservices.cornell.edu/gco
- Prepare your Research Budget
- Find Cornell’s rates, such as F & A (facilities and administrative), fringe benefits, stipend, per diems, and annual inflation
- Identify steps for obtaining approvals for specific types of research
- Learn about sub-awards and working with researchers from other organizations
- Learn how to register and submit proposals electronically through federal and non-federal submission systems
AWARD NOTIFICATION AND CONTRACT SIGNING
Most sponsors issue an award notification to the Office of Sponsored Programs and Research Development when your proposal has been chosen for funding. If you receive notification of an award directly from a sponsor, let your OSP GCO know.

An award is not accepted until OSP

- Reviews and negotiates, when necessary, the terms and conditions of the award
- Confirms that the terms and conditions comply with university policy and regulatory requirements
- Confirms that required approvals are complete
- Signs the agreement.

OSP posts updates on review and negotiation activity in the Research Administration Support System (RASS) (https://researchservices.cornell.edu/manage/acceptance), contacts you to review problematic terms, if any, and notifies you and your department administrator when the award is signed.

As a principal investigator (PI), you have access to your award information through the OVPR PI Dashboard. The dashboard provides financial status, spending rates, transaction details, and project documents for research projects. It is available at: https://pidash.cornell.edu/

Only OSP GCOs are authorized to negotiate and sign awards, contracts, incoming material transfer agreements, nondisclosure agreements, and data use agreements for Cornell-sponsored projects.

Academic Freedom and Rights
OSP negotiates acceptable terms of awards for Cornell. Sometimes, although rare, awards cannot be accepted.

Such cases could occur when a sponsor
- Does not allow faculty and students the academic freedom to publish research results without the sponsor’s approval
- Imposes undue delay on publication
- Makes unacceptable demands regarding the licensing or ownership of intellectual property (IP) resulting from the research. See https://researchservices.cornell.edu/process/gateway-partnership-program for information regarding IP and other terms Cornell accepts from corporate sponsors.

Cornell does not accept awards for classified research that require security clearance or the confidentiality of the sponsor, nature of research, or research results.
GETTING APPROVALS
If you plan to use animals, human participants, hazardous materials, or controlled substances in your research, you may need sponsor and university review and approval as well as permits or licenses. These approvals are usually required before OSP can sign an award or before you begin your research.
Office of Research Integrity and Assurance (ORIA)
https://researchservices.cornell.edu/offices/ORIA
ORIA provides administrative support for the following research compliance committees and functions: Conflict of Interest (COI), Institutional Animal Care and Use Committee (IACUC), Institutional Biosafety Committee (IBC), Institutional Review Board for Human Participants (IRB), and Responsible Conduct of Research (RCR).
East Hill Office Building, 395 Pine Tree Road, Suite 320 / 607.255.6439

Conflict of Interest (COI)
https://researchservices.cornell.edu/compliance/conflict-of-interest
University policy and federal regulations require all faculty to submit an annual disclosure of external commitments and personal financial interests. A sponsor may also require an update at the time of a proposal or an award. Contact the COI staff for further information and to complete a disclosure.
607.255.3943 / 607.254.8878 / coi@cornell.edu

Vertebrate Animals
https://researchservices.cornell.edu/compliance/live-vertebrate-animal-research
The Institutional Animal Care and Use Committee (IACUC) needs to approve your animal-use protocol before you can order or use animals in your research and teaching. IACUC office staff and veterinarians in CARE can help you with your animal-use protocol.
607.255.6439 / iacuc@cornell.edu
607.253.4378 / care@cornell.edu

Human Participants
https://researchservices.cornell.edu/compliance/human-research
The Institutional Review Board for Human Participants (IRB) needs to approve research that uses human participants before the research can begin. The IRB staff can assist you with the requirements and your protocol.
607.255.6182 / irbhp@cornell.edu

Export Controls
U.S. export control laws govern the transfer of technology and shipments out of the country, the transfer of technology to foreign nationals within the U.S., and also address various sanctions and embargoes. The Export Control Office oversees and assists the Cornell community in maintaining compliance in areas such as international collaborations, travel, shipments, online learning, and the storage of controlled information on campus.
607.255.5284 / exportcontrols@cornell.edu
Hazardous Chemicals
https://ehs.cornell.edu/research-safety/chemical-safety/chemical-hygiene-plan
The Laboratory Safety Group (LSG) maintains the Chemical Hygiene Plan which defines measures for protecting employees from health hazards associated with hazardous chemicals in the laboratory to keep exposures below regulatory limits. The Chemical Hygiene Plan is designed to supplement department and laboratory specific safety manuals, standard operating procedures and prior approval for high hazard work that already address chemical safety. Contact Environment, Health and Safety for assistance with hazardous chemical use, storage and disposal questions.

Radiation and Radioactive Materials
https://researchservices.cornell.edu/compliance/research-safety
The Radiation Safety Group (RSG) regulates the use of radiation and radioactive materials in research, including nonionizing radiation sources, such as lasers and magnets. Supported by Environment, Health and Safety (EHS), RSG ensures that radiation sources are used safely, securely, and in full compliance with applicable regulations and laws. If you want to use radiation in your research, contact RSG. 607.255.8200 / askEHS@cornell.edu

Controlled Substances
https://ehs.cornell.edu/research-safety/controlled-substances/research-use-controlled-substances
The use of controlled substances in research requires compliance with federal, state, and local regulations including New York State Department of Health (NYSDOH) licensing and the Federal Drug Enforcement Administration (DEA) registration. Contact Environment, Health and Safety before beginning the application process for assistance in obtaining and using these substances. 607.255.8200 / askEHS@cornell.edu

Responsible Conduct of Research
https://researchservices.cornell.edu/compliance/research-integrity
The National Science Foundation, National Institutes of Health, and USDA’s National Institute of Food and Agriculture require specific training on the responsible conduct of research for students, postdocs, trainees, and fellows supported by sponsored funds from these agencies. Educational resources for RCR are also available.
CONSULTATIONS AND GUIDANCE FOR RESEARCH LABS

VERTEBRATE ANIMALS

Using Animals in Research and Teaching

Center for Animal Resources and Education at Cornell (CARE)
https://researchservices.cornell.edu/offices/care
CARE is responsible for the care and use of all animals used in teaching, research, and testing. CARE oversees all aspects of animal wellbeing, including clinical care and housing. The CARE staff provides you with consultations and training on animal use, including experimental design and protocol development.
care@cornell.edu / 607.253.4378

CARE can help you
- Learn about specialized facilities and services, such as the CARE Breeding Coordinator and Colony Management Service, for your animal research
- Obtain training for you and your group members
- Conduct specialized surgical procedure

Animal Care and Use Procedures (ACUPs)
https://researchservices.cornell.edu/resources/regulations-and-guidance-use-live-vertebrate-animals
ACUPs are already prepared for you to use as your standard operating procedures.

Animal Users Health and Safety Program (AUHSP)
https://researchservices.cornell.edu/resources/animal-user-health-and-safety-program-auhsp
AUHSP helps to identify health risks for you and your staff when using animals in research and teaching. All animal users are automatically enrolled in AUHSP and need to complete AUHSP requirements before access to facilities and animals is granted.
607.255.6439 / auhsp-mailbox@cornell.edu
Environment, Health and Safety (EHS)
https://ehs.cornell.edu/
EHS offers programs, services, and expertise to assist you with the effective and safe use and disposal of hazardous materials and other substances. EHS has staff for the technical fields of biological safety, chemical safety, radiation safety, physical safety, controlled substances, occupational safety, industrial hygiene, indoor air quality, fire testing and inspections, fire compliance, environmental compliance, remediation, and hazardous and special waste management and disposal. The office also includes emergency response, business continuity, and emergency management. Contact EHS before you start your research and make safety an integral part of your program.
395 Pine Tree Road, Suite 210 / 607.255.8200

Cornell Health—Occupational Medicine
https://health.cornell.edu/services/occupational-medicine
Cornell Health’s Occupational Medicine department helps you plan and maintain safety if your animal use or human participant procedures or materials pose potential risks to human health. The Occupational Medicine professionals assist in determining whether your research will need special precautions or oversight.
110 Ho Plaza / 607.255.6960

Today’s research involves the generation and use of massive data sets. In addition, federal regulations require the maintenance and sharing of data obtained during the course of federally sponsored research.

Here are resources to help you understand the current requirements and to plan and manage your research project’s data.

Research Data Management Service Group (RDMSG)
https://data.research.cornell.edu/
RDMSG offers comprehensive services for data management and planning.
rdmsg-help@cornell.edu

LabArchives
https://www.labarchives.cornell.edu/
Academic Technologies offers this cloud-based Electronic Lab Notebook software for managing laboratory data, information sharing, and collaboration.

Externally Provided Data
Cornell Restricted Access Data Center (CRADC)
https://ciser.cornell.edu/data/secure-data-services/cradc/
If your research involves obtaining data from an external source, OSP negotiates and signs the agreement for obtaining and using that data. If there are sponsor requirements for data safety or restrictions on physical and technical access due to privacy laws and regulations, your department IT staff and the team in CRADC can assist you.
cradc@cornell.edu
RESOURCES FOR ADMINISTERING YOUR RESEARCH PROGRAM
MANAGING

Appointing Research Staff, Managing Finances, and Reporting

Begin with your department or college research administration and finance staff. They will help you obtain an account, make purchases and appointments, access systems, and monitor your finances. Sponsored Financial Services (SFS) sets up an account with your budget, and your department notifies you of the account number.

As PI, you will want to regularly monitor your expenditures to ensure the best use of your funds. You are responsible for spending research funds according to policies, regulations, and award terms and conditions, as well as completing your progress reports and other deliverables on time. Your department manager and staff are responsible for assisting you and reducing the burden when possible.

You can monitor your expenditures using the OVPR PI Dashboard at pidash.cornell.edu.

Sponsored Financial Services (SFS)
https://www.dfa.cornell.edu/sfs
SFS is also a resource for the financial administration of grants, contracts, and cooperative agreements. SFS represents you and the university in sponsor audits and billing. Important information about setting up and managing your awards can be found at www.dfa.cornell.edu/sfs/managingawards

East Hill Plaza, 341 Pine Tree Road / 607.255.5805 / uco-sfa@cornell.edu

PROGRESS REPORTS

OSP enters your progress report schedule in RASS (http://guide.rass.cornell.edu/). You’ll receive reminders of your final report due dates. Most faculty submit their reports directly to the agency. You should enter your report submitted dates in RASS.

RESEARCH TEAMS

Appointing Your Research Team
https://hr.cornell.edu/about-hr/hr-contacts-college-and-unit

Your department human resources staff is the best source of information for searches and for appointing people to your research team.

Your Department Director of Graduate Studies and your graduate fields are the best resources to help you learn about graduate student admissions and to find students to work with you. Your department human resources or graduate field staff appoints graduate research assistants once you select them. Sources listed below give you some background and starter information.

The Graduate Student Assistantship Policy
https://www.dfa.cornell.edu/policy/policies/graduate-student-assistantships
607.255.6837 / cornell-policy-office@cornell.edu

Undergraduate Researchers
http://undergraduateresearch.cornell.edu/
607.255.6445

Minors in Labs Policy
https://www.risk.cornell.edu/youth-programs/minors-in-labs-guidelines/
DISCOVERIES, INVENTIONS, TECHNOLOGY MATURATION, AND STARTUPS
Kevin M. McGovern Family Center for Venture Development in the Life Sciences (McGovern Center)
https://mcgoverncenter.cornell.edu/

The McGovern Center helps to develop early-stage startups, with a focus on accelerating the company’s research and development. The center offers business planning, space, facilities, and assistance for strengthening management teams.

405 Weill Hall / 607.255.1421 / McGovernCenter@cornell.edu

Cornell University Center for Advanced Technology (CAT) at the Cornell Institute of Biotechnology
http://www.biotech.cornell.edu/commercialization-cat

The Cornell CAT supports biotechnology industries in New York State by promoting technology transfer, economic development, entrepreneurial innovation, and research and development. The center offers funding, training, and programs for Cornell life science researchers. The CAT can help you think through the commercialization potential of your life science ideas in biotechnology and provide an array of business development assistance. The center works closely with CTL.

402 Weill Hall / 607.254.6541 / biotech@cornell.edu

The Praxis Center for Venture Development (PRAXIS)
https://pcvd.cornell.edu/

The Praxis Center for Venture Development helps Cornell engineering, digital, and physical science startup companies grow from interesting ideas to self-sufficient enterprises. The Center focuses on accelerating the development of client companies’ technologies or products, validating client companies’ value propositions, and strengthening client companies’ management teams. The Center facilitates the maturation of client companies to achieve a sustainable level of economic activity, generate significant outside investments, and achieve independent operation.

Definition of praxis: n. Practical application or exercise of a branch of learning.

350 Duffield Hall / 607.255.6032 / praxis-admin@cornell.edu
Biotechnology Resource Center (BRC)
http://www.biotech.cornell.edu/biotechnology-resource-center-brc
BRC provides advanced technologies, services, training, and education to life science researchers. Core facilities include genomics, proteomics and mass spectrometry, imaging, bioinformatics, bio-IT (information technology), and advanced technology assessment.

Center for Advanced Computing (CAC)
http://www.cac.cornell.edu/services/
CAC offers high-performance computing (HPC) and cloud computing services; assistance in accessing national HPC resources; storage services; and web, database, programming, and code improvement consulting services.

Cornell Center for Materials Research (CCMR) Shared Facilities
https://www.ccmr.cornell.edu/facilities/
CCMR provides world-class materials analysis and processing equipment, which expert instrument managers oversee.
Cornell High Energy Synchrotron Source (CHESS)
https://www.chess.cornell.edu/
CHESS is a high-intensity x-ray source supported by the National Science Foundation. CHESS provides state-of-the-art synchrotron radiation facilities for research in physics, chemistry, biology, materials, environmental sciences, and other fields.

Cornell Institute for Social and Economic Research (CISER)
https://ciser.cornell.edu/
CISER supports the computational and data needs of social scientists and economists. CISER provides cost-effective access to statistical software packages, consulting services for accessing and using data sets, and a secure computing environment for confidential, restricted-use data sets.

Cornell Magnetic Resonance Imaging Facility (CMRIF)
https://www.human.cornell.edu/hd/research/labs/mri/home
The CMRIF is equipped with a GE Discovery MR750 3.0T scanner and provides noninvasive imaging with high signal-to-noise ratio and spatial resolution for anatomic and functional investigations of a wide range of specimens including mice, humans, plants, and biomedical materials.

Cornell NanoScale Science and Technology Facility (CNF)
https://www.cnf.cornell.edu
CNF supports nanoscale science and technology research projects with state-of-the-art technical resources and expert staff. Researchers use fabrication, synthesis, computation, characterization, and integration resources of CNF to build structures, devices, and systems from atomic to complex length-scales.

Stem Cell and Transgenic Core Facility
https://transgenics.vertebrategenomics.cornell.edu/
The facility provides state-of-the-art capabilities to generate stem cells, modify genes, create transgenic animal models, analyze pathology with high diagnostic and microscopic resolution, and study individual stem cells in live animals or in human-made environments.
HELPFUL RESOURCES AND INFORMATION CONTINUED
Research Centers and Institutes

Cornell's large number of diverse centers, institutes, and societies promotes intra- and interdisciplinary research. They provide you with many opportunities for collaboration. Some even offer seed funding. A few examples are listed below. For a complete list of research centers, institutes, laboratories, and programs, go to research.cornell.edu/find-a-center.

Cornell Atkinson Center Sustainability
http://www.atkinson.cornell.edu/
Cornell Atkinson provides grant and fellow programs, activities, and external partnerships to develop and translate new approaches, techniques, and technologies to practice for sustainable and reliable energy solutions, a resilient environment, and responsible economic development.

Institute for the Social Sciences (ISS)
http://socialsciences.cornell.edu/
ISS facilitates collaboration among social scientists across Cornell and supports research on core social science topics through programs such as the small grants, theme projects, and faculty fellows.

Society for the Humanities
https://societyhumanities.as.cornell.edu/
The Society brings distinguished visiting fellows and Cornell faculty and graduate student fellows together each year to pursue research on a broadly interdisciplinary focal theme. It sponsors internal grants, workshops, and funding opportunities for Cornell faculty and graduate students in the humanities and hosts annual lectures, workshops, colloquia, and conferences.

Survey Research Institute (SRI)
http://www.sri.cornell.edu/sri/
SRI provides sophisticated and state-of-the-art survey research, data collection, and analyses. Services include study and instrument design, sampling procedures, focus group planning and facilitation, data analysis, and a variety of methods for data collection.

CONNECTING

With Cornell Researchers
Cornell's extremely talented faculty produce a rich, expansive body of research and scholarship. Here are several resources to help you stay informed about what your colleagues across campus are doing. Also check out your college sources, as well as the research centers. Keep your college or department communications staff and Cornell Research communications in the Office of the Vice Provost for Research aware of your research findings and publications so they can help publicize your research story.

Stay informed
- Cornell Research Website at research.cornell.edu
- Cornell Research Annual Report
- Research Newly Funded
- Cornell in the News – a listserv at pressoffice@cornell.edu
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