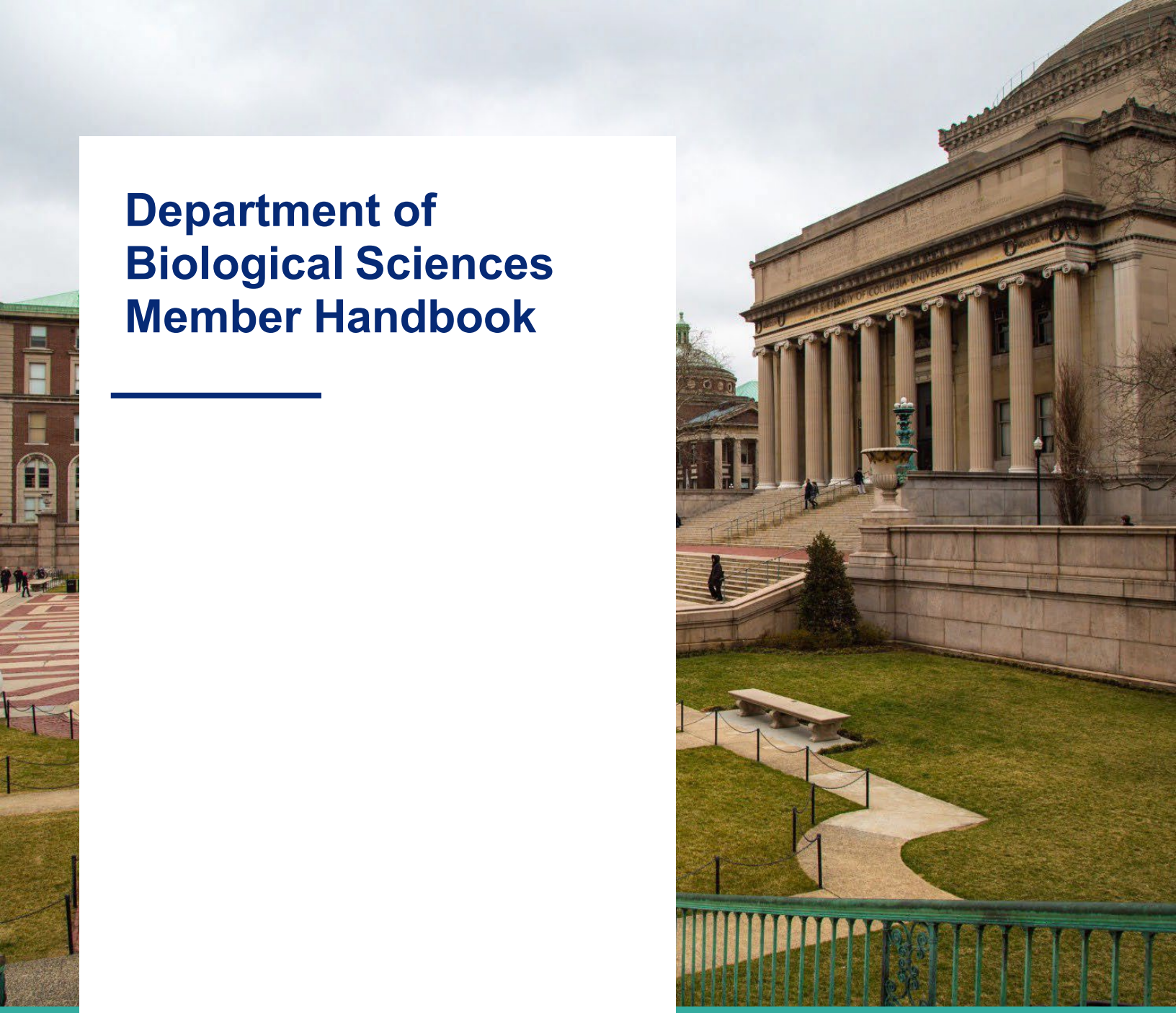


Department of Biological Sciences Member Handbook

COLUMBIA UNIVERSITY

Department of Biological Sciences

Table of Contents

Welcome

Welcome to the Department of Biological Sciences at Columbia University! We are so excited that you are joining us! This handbook is for new faculty members, employees, students, and postdocs performing work or research in the Department of Biological Sciences.

Below is some helpful information and essential policies that you will need to be familiar with. Please read through the document carefully. Once you have mastered the material, please create a PDF version of the entire document, sign and fill in the requested information on page 19, and return to the Chair. Please be sure to do this within 3 days of starting your appointment.

Welcome to Columbia.
This site below has resources for new members of the Columbia community, and a check list for getting started:
https://humanresources.columbia.edu/welcome

Discount and perks are listed here:
https://humanresources.columbia.edu/discounts

A GSAS guide for new MA and PhD students can be found here:
https://www.gsas.columbia.edu/content/new-student-guide

The Office of Postdoc Affairs is found here:
https://research.columbia.edu/office-postdoctoral-affairs

A guide for new postdocs is found here:
https://research.columbia.edu/new-postdocs

Resources for new faculty members are found here:
https://resources.fas.columbia.edu/content/new-faculty-resources

Faculty members will discuss teaching with the Chair (and likely others), but here are some useful resources: information on the new course approval process can be found here:
https://www.college.columbia.edu/coi-procedures

The Columbia Center for Teaching and Learning (CTL) can be found here:
https://ctl.columbia.edu

The Faculty of Arts & Sciences website is here, which has information on resources and policies in FAS:
https://fas.columbia.edu

Printing posters and other documents can be done at Columbia Print:
https://print.columbia.edu/content/banners-and-posters

Departmental seminars are generally Mondays at noon. The seminar schedule can be found here:
https://www.biology.columbia.edu/events

The Columbia Library offers guidance on performing research for undergraduate students, graduate students, postdocs and faculty. Here is the library site and the science library contact information:
https://library.columbia.edu/services/subject-guides.html

Amanda Bielskas

Meet with me

Director
Science, Engineering, & Social Sciences Libraries
asb2154@columbia.edu

(212) 854-6767
Science & Engineering Library - 403 Northwest Corner Building

Diversity and Inclusion

The Department of Biological Sciences welcomes students, faculty and personnel from all over the world, with diverse backgrounds and skills. Diversity is valued and promoted through inclusion and cohesion in our Department. Community-building is valued in our department. It is promoted through common meeting places and discussions, overlapping intellectual exposure in lab rotations and courses, and collaborative research**.** Our goal is to make everyone feel welcome and celebrated as a member of our Department.

List of Department Staff

Name	Uni	Title
Inna Boluk	IB73	Administrative Assistant
Meehan Crist	MC508	Writer in Residence
Gabriel Espaillat	GE2288	Financial Assistant
Sarah Kim Fein	SK1295	Program Manager, Academic Office
Anthony Gomez	AG2231	Director of IT Resources
Gleniza Gomez	GG2373	Office Assistant, Business Office
Adelia Gulliver-Niles	AG3262	Purchasing Assistant
Mohammad Hoque	MMH2274	Stockroom Coordinator
Gregory House	GH2157	Handyman
Kangmei Hu	KH79	Glasswasher
Jessica Jimenez	JJ2290	Director of Administration
Muin Khan	MKR2107	Director, Academic Administration & Finance
Will Lannon	WL2675	Director, Research & Technical Services
Bodiuzzaman Mian	BM3275	Manager, Business Office
Jerry Rivera	MJR2172	Stockroom Manager
Liliana Rosario	LR3142	Administrative Assistant for Chair, Intro Bio, and BUMP
Jaya Santosh	JS2621	Assistant Director, Grants
Ellie Siddens	MES2314	Administrative Assistant, Academic Office
Jonathan Toney-Quow	JAT2190	Staff Associate, IT Support

Facilities and Research

Lists of University-wide shared facilities can be found here:
https://research.columbia.edu/centergrants/shared-facilities

Many resources for research can be found in the EVPR website here:
https://research.columbia.edu/ReaDI-Program

This year we have moved the Handbooks to a digital platform that allows enhanced search capabilities across all of the Handbooks

The Handbooks are hosted on LabArchives, a cloud-based electronic research data platform; instructions on how to access the Handbooks are noted below.

The **Sponsored Projects Handbook** describes policies, procedures and resources relating to sponsored research. Its sections track the key phases of a sponsored project, from finding funding to close out. The **Clinical Research Handbook** is a companion resource to the Sponsored Projects Handbook, covering the conduct of clinical research at Columbia, from training to audits. It also includes a chapter on FDA-regulated research.

The **Animal Research Handbook** covers regulatory requirements and Institute of Comparative Medicine and Institutional Animal Care and Use Committee policies and procedures for faculty and staff who conduct research involving animals.

The **Research Environmental Health** and **Safety Handbook** covers the multiple EH&S programs, including Laboratory Safety, Biological Safety, Fire Safety, Laser Safety, Occupational Health and Safety and Controlled Substances. The **Research Radiation Safety Handbook** is a companion resource to the Research Environmental Health and Safety Handbook for faculty and staff who conduct research involving radioactive materials or radiation producing equipment.

If you have questions about particular policies or procedures in any of the Handbooks, please feel free to contact the EVPR Office and we will arrange for individuals with the appropriate expertise to follow up with you. LabArchives is a powerful tool that anyone at Columbia can use free of charge for collaboration, data management and document sharing. More information is available on Columbia's Electronic Research Notebook website. If you have technical questions about LabArchives, please contact support@labarchives.com.

Facilities: Please help facilities spread the word so that faculty, staff, and students in your school or department know the next time they see a condition in need of maintenance on campus, it's easy to submit a request, especially when on the go: simply text 212-854-2222 or email facilities@columbia.edu. You should always cc Will Lannon (wl2675@columbia.edu), Director of Facilities in our Department, on any lab or facility-related issues.

Shared Equipment

The Department keeps a list of shared equipment:
https://www.biology.columbia.edu/pages/resources

The confocal microscope procedures can be found in Appendix III.

Many shared biochemistry equipment items are available in the PBCF shared facility, run by the Chemistry Dept:
https://pbcf.chem.columbia.edu/content/instrument

The 11th Floor of Fairchild also has shared equipment for departmental use:
Policies for the qPCR machine on 11th floor of Fairchild:
All users are required to use sign-up calendar: sign-up with you and your PI's name, and your UNI
Account number: bioqpcr@gmail.com
Password: ABqpcr11

- All users are restricted to use your reserved time point (Maximus 3h for each qPCR run).
- Please don't label the plate with a pen.
- All users are required to wear PPE.

The IICD purchased three instruments in partnership with the Department of Biological Sciences: 10X Chromium, Tissue Dissociator and Miseq DNA Sequencer. The instruments are accessible to all Biological Sciences Dept members. Details about training and access to the instruments can be found on the website intranet: https://cancerdynamics.columbia.edu/iicd-intranet
For information contact: Reed Black, Manager, Tel: 212-853-0278

Professional Development and Education
Columbia provides access to LinkedIn Learning here:
https://humanresources.columbia.edu/content/linkedinlearning

Computers & Data
You should save all your Biological Sciences Dept related data (course information, research data, etc) on the Dept server as you generate it, as well as placing all research data in **Lab Archives,** or use the data storage process specified by your supervisor/PI**.** All your data should be organized logically so anyone can find relevant course information, presentations, data, etc. You can contact Anthony Gomez (ag2231@columbia.edu) about logging in to the server, or other IT needs. All research methods and methods and protocols must be carefully recorded and saved in your server folder and/or on Lab Archives.

For IT related issues send a ticket request to biosupport@biology.columbia.edu

Emails, ID Cards

Email Address: See Appendix II.

ID Card: See Muin Khan (in 500 Fairchild) for information.

Access to Buildings: Access to buildings can be granted by Will Lannon. You need to be compliant ith the ReOpenCU app. Email your ID card number (on the back of the card) to Will Lannon at wl2675@columbia.edu.

Dept Members: Department members are listed on the dept website: https://www.biology.columbia.edu/directory

Dept-wide e-mail: Please ask Sarah Kim Fein (sk1295@columbia.edu) to be added to the dept email list. To send an e-mail to the entire dept, send it to Sarah for approval.

Orders: Place all of your orders through the Quartzy ordering system. Speak to Jerry Riivera (jr2172@columbia.edu) about how to use the system.

Reimbursements: All approved reimbursements must be submitted through Concur. Please email bioreimbursements@columbia.edu if you have any questions regarding the reimbursement process.

https://www.biology.columbia.edu/pages/concur-travel-and-business-expenses

Payroll: For questions about payroll, see Muin Khan (mkr2107@columbia.edu) or Jessica Jimenez (jj2290@columbia.edu), Directors of Administration (room 500 Fairchild)

Absences:
If you will be away, please provide advance notice to your supervisor or PI.

ISSO and Visas:

You can obtain assistance with some Visa matters through ISSO:

https://isso.columbia.edu/content/visas-and-travel

Information for Faculty

Welcome to the faculty in the Department! All new faculty members can expect to receive guidance from the Chair and administrative staff in 500 and 600 Fairchild. In addition, junior faculty will be assigned a three-person mentoring committee of senior faculty; other faculty members are also very happy to offer advice and share experiences. We want to help you acclimate and succeed! If there is anything you need to be happy and successful, please contact the Chair.

Faculty Meetings: All faculty members should plan to attend faculty meetings and junior faculty presentations to be fully informed and provide input into department matters—we need your ideas! If you cannot attend a meeting, please alert the Dept Chair in advance.

Grant Submissions: Please work with Muin Khan in the 500 Office with all grants and fellowship applications. Make sure to give as early notice as possible. University policy requires that complete proposals are submitted to Sponsored Projects Administration review at least five working days before the submission deadline.
https://research.columbia.edu/sponsored-projects-administration

There is helpful advice for managing a research group here:
https://research.columbia.edu/managing-research-group

This HHMI guide is helpful:
https://www.hhmi.org/science-education/programs/resources/making-right-moves

Locations: Faculty in the Department of Biological Sciences are mostly housed in the Sherman Fairchild Center and the NorthWest Corner Building. You can look at the Department website to find the office location for any Biological Sciences faculty member.

Striving for teaching excellence:

The educational mission of the Department of Biological Sciences is to teach students how to describe, analyze and explain phenomena in terms of underlying biological mechanisms. As part of this overarching goal, we seek to train students in fields of active research, and prepare them for careers in basic research, as well as to train students with other career interests in critical thinking about natural processes, including topics of general interest. Independent research is a critical step in development toward the program goal of being able to describe, analyze and explain phenomena using biological, chemical, physical and mathematical mechanisms. Problem-solving using concepts in biology is a key component of the curriculum. The intellectual arc of our departmental educational program progresses from foundational material to reading and analysis of advanced primary literature. Intermediate students are introduced to the scientific literature, while advanced students are expected to perform independent research and to integrate their data with both the primary literature and the larger scientific enterprise. Our program goals are specifically to have students learn to:

- Describe, analyze, and discover mechanisms underlying natural processes through experimentation, modeling and scholarship
- Understand and apply common experimental design principles andapproaches to develop a mechanistic understanding of biological processes
- Use appropriate analytical methods to describe and interpret empirical data, including both quantitative analyses and visualization of data
- Gain insight into the chemical, physical, and mathematical bases of thenatural world.
- Be able to critically evaluate, defend and critique experimentaldata
- Behave ethically, demonstrating a respect for animal and human subjects, privacy of personal information from human subjects, and integrity ofresearch data
- Demonstrate an ability to collaborate effectively with diverseothers
- Demonstrate information literacy through the ability to obtain, assimilate and explain relevant primary sources on topics of interest; attain proficiency in the use of large databases and algorithms for exploring complexinformation
- Communicate effectively about science, in both oral and writtenforms

We seek to teach courses in which students gain a new perspective that forever alters how they interact with the world, and that cements a love of lifelong learning about the natural world. We work to realize these program goals through the following methods:

- Active learning, in which students are provided an opportunity to actively interact with course material through class discussions, audience response systems, discussions and problem-solving sessions with classmates; in addition, students are provided access to lab courses where they can learn labtechniques and perform original research projects. Active learning has been documented in numerous studies to enhance both student engagement and studentlearning.

- Formative feedback and rubrics, in which students are provided examples of the types of assignments that will ultimately lead to a summative assessment of learning in the course, and given feedback on how their performance aligns with a rubric describing various performance levels in the course. Formative feedback has been demonstrated to reduce student anxiety and stress, and to increase learning.

- Inclusive teaching, in which students from diverse background, cultures, and learning styles are considered when pedagogical techniques and examples for discussion are selected. Inclusive teaching increases the retention of diverse groups in educational programs. For example, when discussing individual scientists, we encourage the use of examples from diverse cultures, genders and ethnic groups, if appropriate to the pedagogical goals of the class, as this helps all students see themselves as scientists. In addition, we recognize that some students readily contribute to discussions in class, but others may have cultural or personal barriers that inhibit expression, so we encourage providing a variety of modalities by which students can demonstrate their mastery of course material.

- Reflective teaching, in which instructors start from the learning outcomesthey wish to achieve, and then design class activities, assignments, andassessments

in order to achieve these outcomes. Faculty members then reflect several times throughout the semester on the aspects of the course that have met expectations, exceeded expectations, or not met expectations, the possible causes of these outcomes, and how the course might be adjusted to improve outcomes. Soliciting feedback from students throughout the course is a tool that assists reflective teaching, and allows students to provide formative feedback to the instructor prior to the summative course evaluation.

We encourage each new departmental instructor to discuss with the chair of the department your ideas about teaching.

PhD Student Information

Guidance will be provided by the Directors of Graduate Studies and administrative staff in the 600 Fairchild academic office. All are open to answering any questions you may have and can direct you to other sources.

Graduate Student Handbook:
The PhD graduate student handbook can be found here:
https://www.biology.columbia.edu/programs/graduate-student-handbook
Please familiarize yourself with these policies if you are in the program or a mentor for the program.

Quick Start Guide for PhD Students:
https://www.biology.columbia.edu/sites/default/files/docs/Quick%20Start%20Guide.pdf

PhD Program "at a glance"
https://www.biology.columbia.edu/sites/default/files/docs/The%20Biological%20Sciences%20Graduate%20Program%20at-a-glance%20final.pdf

Pre-Research Seminars:
First-year PhD students attend twice-weekly talks from Program Faculty about the research in their laboratories in order to facilitate identifying labs of interest for rotations. These meetings also provide a venue for regular gathering of the first-year group and an opportunity to learn in outline the breadth of the local research environment. At the suggestion of the Graduate Research Council, speakers have been encouraged to illustrate how their work and general philosophy fits into broader research areas and how it might be extended. More information is provided here:
https://www.biology.columbia.edu/programs/pre-research-seminars

Research

Here is a quick start guide to research at Columbia:
https://research.columbia.edu/sites/default/files/content/RCT%20content/45397_Research%20Brochure%20WEB.pdf

If you conduct research or if you support people who conduct research, please be sure to read the information below.

The University's conflict of interest and conflict of commitment policies affirm that a researcher's outside activities may stimulate and nurture scholarship. These policies also address how actual or perceived conflicts may cause bias in research or affect an individual's ability to carry out their University responsibilities because of time commitments required or competing priorities and set out disclosure requirements. CUIMC affiliates must also follow CUIMC's policies on conflict of interest in clinical care and education. Disclosure of potential conflicts to the University must be completed at least annually through Rascal.

Research security continues to be a priority at the federal and University level. The University's Science and Security webpage contains resources and guidance in this area. New FAQs address considerations for common international engagements and collaborations. Researchers must pay particular attention to making all disclosures required by federal funding agencies.

The University's Policy on Misconduct in Research ensures that issues of plagiarism, falsification, or fabrication of research are addressed with rigor, care, and confidentiality. The University's Guidelines on Retention of Research Data reiterate that research data acquired under the auspices of the University must be stewarded, managed, and shared in accordance with scholarly practice and funding agency requirements.

NIH and other federal funding agencies have new policies to mandate research data management and sharing. NIH's policy takes effect on January 25, 2023. Visit Research Data at Columbia for more information and resources.

The Office of the EVP for Research publishes six research handbooks containing key research policies and procedures in many areas and also a Quick Guide to Research,

highlighting the many offices that support research at Columbia. These offices also offer many resources to help researchers find funding and collaborate on major proposals. Visit the Find Funding webpage for more information.

If you have questions about research compliance issues, please contact the applicable EVPR office or the Office of Research Compliance and Training at research-compliance@columbia.edu.

Notebooks:

Columbia uses Lab Archives as an electronic lab notebook (ELN) platform. All data should be put into this ELN system unless another procedure is specified by your supervisor. All experiments, ideas, conclusions, etc. must be carefully and neatly recorded in the ELN. All data, results, interpretations, etc. must be recorded in the ELN. It is an official record of your work. Instructions and training in the responsible conduct of research can be found here: https://research.columbia.edu/responsible-and-ethical-conduct-research

You should be familiar with the responsible conduct of research and act accordingly**.** Specific information on good laboratory notebook practices can be found here: https://research.columbia.edu/sites/default/files/content/RCT%20content/ReaDI%20Program/tutorial_LabNotebook_V9.pdf

For notebook guidelines, see Appendix I. More detail is provided on the Columbia READI site:
https://research.columbia.edu/ReaDI-Program

When you are using Lab Archives, our electronic notebook system, ask Anthony Gomez to send you a google doc that outlines the setup procedure.

Stockroom:

A variety of chemicals and lab/office supplies are stored in the Biological Sciences Stockroom store on the 2nd floor of Shapiro.

Visitors:

No visitors are permitted in labs or departmental facilities without prior approval of the relevant PI or Dept Chair. If you have a visitor you would like to bring to the dept, please contact your supervisor or the Chair. No children are permitted in researchlabs.

Data Management Plan:

Prior to beginning a research project, you should write out a data management plan, describing how the data you generate will be organized, annotated, stored, backed up, and made accessible to others. Guidance on writing a data management plan can be found on the Columbia READI site:

https://research.columbia.edu/ReaDI-Program

https://research.columbia.edu/content/data-management

The details of your plan will depend on the nature of the data you collect, such as whether it is associated with sensitive information, the amount of data, and the file types. Your plan should specify how the data will be collected, the type of data, how the data will be annotated and stored and backed up, and eventually how it can be made accessible. You should also consider who need to access the data while it is being generated and once it is complete. There are also specific data management and data sharing requirements of funding agencies that you should consider. Any necessary security should be considered.

The office of the EVPR (Roger Lefort) and the Columbia Libraries (Moacir P. de Sa Pereira) are available to help with data management plan as well.

Prior to beginning research, your data management plan will need to be discussed with and approved by your supervisor.

Data Integrity:

You are responsible for ensuring that all data you report and procedures that you perform are reproducible, accurate, and reliably recorded. The expectation is that anyone can come in and read your lab notebooks and data files and reproduce the experiments you have performed with the same result. From time to time other members of your lab may be asked to reproduce your experiments, especially if they report interesting findings. This helps ensure reproducibility.

Professionalism:

All dept members are expected to be respectful of each other, and to be professional with each other in and outside of the dept. It is unacceptable to send texts, email messages or other communications with potentially inappropriate content to anyone else in the dept. No comments or communications are permitted regarding sexual innuendo, use of illicit substances, or of a racially, misogynistic, or culturally insensitive nature. In addition, everyone is expected to keep approximately normal business hours to facilitate interactions. You will be e-mailed to alert you to required online training regarding most of these subjects. Finally, under no circumstances may anyone enter the dept or associated spaces under the influence of alcohol or drugs.

Intellectual Property:

It is critical that you record all data in manner consistent with protection of intellectual property. This means recording all data in your ELN in the manner described above for record keeping. You agree to assist in the preparation of any materials needed for protection of intellectual property, such as patent applications. In some cases, research you are involved in may be patented and eventually licensed to a company totranslate these discoveries into a useful form for society. You agree that the Office of the General Counsel at Columbia, Columbia Technology Ventures and the Dept Chair will have discretion to determine inventor status, in accordance with U.S. law. If you are named as an inventor on a patent application or invention report, you agree to any division of royalty sharing determined by Columbia Technology Ventures, University Policies and/or your supervisor or PI. The Columbia University statement of policy on proprietary rights in the intellectual property of faculty activity can be found here: http://www.columbia.edu/cu/vpaa/handbook/appendixd.html

University Policies:

It is your responsibility to ensure that you are in in compliance at all times with all University Policies. These can be found here:
http://www.essential-policies.columbia.edu

In the event that any of the conditions described in this document are violated, the dept member in question will be subject to disciplinary action, including possible termination from Columbia and from the Department.

Biological Sciences New Member Information Sheet

Name: _____

Columbia Email address: _____

Non-Columbia Email address: _____

Phone number(s):

Home: _____
Work: _____
Cell: _____

I have read and understand the contents of this Biological Sciences Lab New Member Information Sheet, including all appendices, and agree to abide by the policies herein.

Signature: _____

Date_____

(Please fill this out, sign, make a PDF of the entire document and return to the Dept Chair within 3 days)

Appendix I. Notebook Guidelines

Updated: 11/11/16

Notebook Guidelines

Each notebook entry (Physical or electronic/LabArchives) should include:

Rationale/Hypothesis—link this back to previous experiments, if applicable

Design of experiment—including the thought process leading up to the design

Protocol(s)—cite any adaptations to the original or most commonly used protocol and explain why you chose to change it from the original protocol

Data & Results—including all figures, graphs, etc

Conclusions/Interpretation of results—including research strategies and experiments worth repeating, leading into (6) Future experiments planned

Future experiments planned

Safety notes—including any:

Issues that occurred during the experimental procedure
"Near misses" that could have resulted in a safety issue but were luckily or consciously avoided.
Safety precautions taken during a particular experiment or reaction setup including explanations why
General safety precautions that should be taken at all times

Witnessing—notebook entries should be witnessed by at least one other person periodically.

Appendix II. Email set up

E-mail

Setting up your columbia.edu e-mail account (20 MB quota):
Go to https://www.cuit.columbia.edu/cuit/manage-my-uni

Appendix III. Confocal Microscope Procedures

What follows is an outline of the new policies and procedures put in place to access and utilize the confocal room facility safely and responsibly during the COVID-19 pandemic. Please take the time to familiarize yourself with the details, and be sure to let Tia Peterson (tp2888@columbia.edu) know if you have any questions. Thank you!

Gmail: cubiologyconfocal3 Password: zeisszen245
Color coded sign up: Red LSM700 Blue LSM800
Room Fairchild 1002E, Door Password: 2 and 4, 5
Group listserv: confocal2@columbia.edu
Troubleshooting? Please email or stop by Fairchild 1013
Advanced Technical Questions: Zeiss Technical Help at tanay.desai@zeiss.com or call Zeiss Technical Service at 800 509-3905

Sign-Up Rules:

1. Initial sign-up period Friday at noon 12:00-5:00 pm for the followingweek.
○12 hours total are allowed per lab per microscope (24 hours total) during peak hours (Mondays-Friday from 9 am to 6 pm).
I.Friday 12:00-5:00 pm will be the initial sign-up, which will be limited to Biological Sciences department users, and to a certain amount of hours per lab (see specific instruction below).
II.Friday after 5:00 pm will start the unlimited sign-up period, where everyone can sign up and fill in the untaken slots.
○ Do not sign in for more than 3 hours in a row during peak hours.
○Please make sure to put your name, uni, and lab, in each microscope you are using. (for example Tia tp2888, Kalderon LSM 800).
2. After 5 pm, any lab may take any additional hours.

3.We are not implementing the above sign-up rules for Saturdays and Sundays.Weekends are flexible and you can sign up for however many shifts you need to.
Please Do NOT sign up before noon unless you are a professor and will personally be using the microscope, or your time slot will be removed.

- The new account login for the confocal microscopes are:

Username: cubiologyconfocal3@gmail.com

Password: zeisszen245

-Users are encouraged to sign up for consecutive shifts whenever it is possible, andare allowed to continue working during the interval between consecutive shifts.

-The new listserv for approved users is confocal2@columbia.edu. Please send an email out if you are canceling a shift, regardless of how far in advance the cancellation may be. Weare planning to stick to the predetermined schedule as much as possible. However, please be sure to send out an email if you are finished early or coming in late. Confocal hours can be competitive and any extra time another user can get is always a big help.

-Please try your best to avoid missing any scheduled sign-ups. You can share the confocal calendar with your main Gmail account to ensure that you're seeing the properinformation.

Microscope Usage:

Most policies regarding microscope operation remain unchanged, with some exceptions:

-Tia will be available virtually to assist with any technical concerns regarding microscope operation. Please reach out to us: Tia (tp2888@columbia.edu) so she can either answer your questions via email or via Zoom, depending on her availability and the nature of the problem.

-Supplies (lens cleaner, oil for lenses, etc.) can be found in the second drawer of the desk closest to the door. We will check the inventory periodically to ensure there are no shortages.

-The one exception is the mercury bulbs for the LSM700, which will need to be changed by one of us. For this reason, we encourage users to use the LSM800 wheneverpossible.

-To encourage usage of the LSM800, the 40X and 100X objectives have been transferred from the 700 to the 800.

-If you do still plan to use the 700, let us know when the bulb hour counter approaches 250, and we will set aside a time to change it (likely during a time that one of us has signed up for the confocal already).

Sanitization:

-Users are required to wear PPE (masks and gloves) at all times while using the confocal facility. Both are provided in the facility, but anyone who can bring their own mask is encouraged to do so.

- All common surfaces must be wiped down with 70% ethanol or a sanitary disinfectant wipe following use. I've made a brief tutorial video (https://www.youtube.com/watch?v=EZEleeE13h8) shot on my cell phone that outlines the best way to go about this. The gist is that you should either wet a large Kim wipe with 70% ethanol from the spray bottle, or use a sanitary wipe (all resources provided), and then start the wipedown with the top of the microscope, push the top back to clean the stage, then the focus knobs, ocular lenses (gently dab), joystick, on/off switches, touch screen, and keyboard/mouse of the computer. You may want to include the room light switches, supplies, etc. as well.

Appendix IV. Safety Issues

Visit the EH&S Lessons Learned website to read more about recent laboratory incidents at the University.
For further information on this or any other safety matter, please contact the EH&S office (http://ehs.columbia.edu/Contact.html).

Key point to know and remember:

- Always safely store and segregate chemicals and solvents appropriately
- Always read product instructions prior to use
- Enclosed spaces are a hazard if gases are released in those spaces, such as carbon dioxide or nitrogen
- Food and beverages may never be consumed in a laboratory
- Ethers must be disposed of within 3 months of opening
- Methanol and ethanol bottles must be triple rinsed and disposed of in yellow bins
- You must know the flammable solvent limit of the room you work in
- You should have a lab coat, goggles and gloves.
- Shoes must be worn at all times
- You must sign up for relevant safety courses
- You cannot store flammable solvents in any freezers or refrigerators unless they are specifically designated as explosion-proof
- Large-scale extractions with ether are an explosion hazard
- All gas cylinders must have a current date on them, and must not be expired. Please check each new cylinder when it arrives.
- Gas cylinders must be secured properly.
- All containers must be clearly labeled with their chemical contents.
- No boxes or materials can be stored within 18 inches of the ceiling.
- No ethanol spray bottles can be stored in a cold room.
- Methods of egress from a lab cannot be blocked
- All stationary equipment must be plugged directly into a wall outlet—extension cords may not be used

Appendix V. How to access Research Handbooks via LabArchives

The research handbooks are located at the top of the left-hand panel of LabArchives in the EVPR Procedures and Policies notebook.

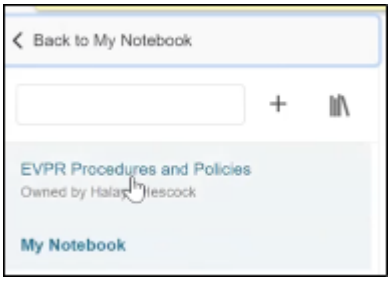
1.Navigate to the LabArchives login URL https://shib.labarchives.com/?entityID=urn%3Amace%3Aincommon%3Acolumbia.edu and sign in with your UNI and UNI password on the blue Columbia UNI login screen.

2. If prompted, authenticate with Duo multi-factor authentication.

3.If this is your first LabArchives login, you need to confirm your account details. Your name and email will be auto-suggested, you just need to complete your profile by selecting a role type (if you are an administrative officer, "Researcher" is recommended). You do not need to fill anything in for ORCID. Click Update.

4. At the top of the left-hand navigation panel, click Notebooks.

5. Next, click the top notebook: EVPR Procedures and Policies.

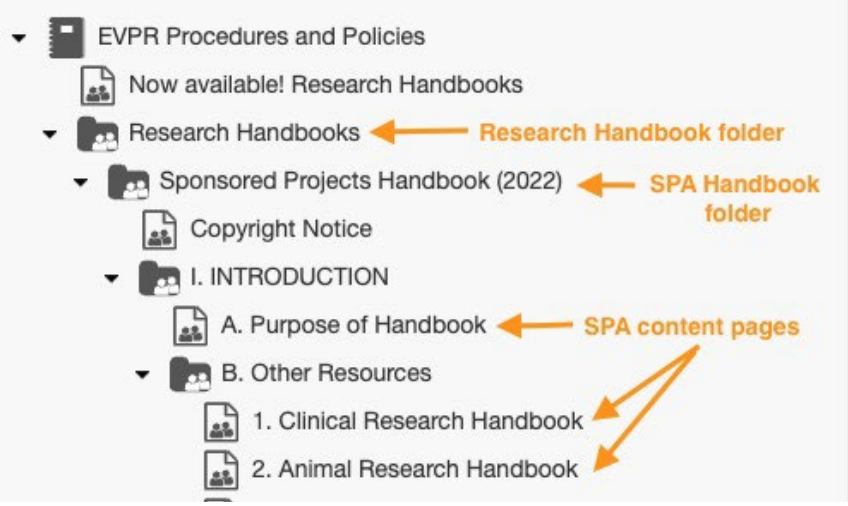


EVPR Procedures and Policies notebook at the top of the left-hand notebook navigation

6.You can now use the left-hand navigation to display research handbook content. To view content:

- Select the Research Handbooks folder
- Select the handbook folder that you are interested in

- Select a section folder to see the content pages below
- Click on a page to see the content on that specific topic



7.To search for a specific topic, use the Search Notebook toolbar at the top of the website.

8.You can always find the EVPR Research Handbooks at the top of the left-hand navigation panel after logging into LabArchives or you can bookmark https://mynotebook.labarchives.com/share/%2520EVPR%2520Procedures%2520and%2520Policies/NDEuNnw4MjkyNDMvMzIvVHJlZU5vZGUvMjA0MDQ3MzcxOXwxMDUuNg== to be dropped into the notebook directly after login.