



STARTING A LAB IN THE UCI SCHOOL OF BIOLOGICAL SCIENCES



UCI BioSci





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FINANCES

Budgeting for Personnel and Research Expenses

Since it can take years to get a grant, it is wise to estimate expenditures and make startup funds last. In addition, recruit personnel wisely. Consider the costs of postdocs versus graduate students, lab assistants versus senior research staff assistants. Get advice from other faculty, and consult with the department MSO (Management Services Officer) and your financial analyst for help. It is especially important to talk to your financial analysts about salaries for lab personnel, because they usually require additional funding for benefits and tuition (in the case of graduate students).

Ordering Items

There are five primary ways to buy supplies and equipment:

- **UCI Buy:** an online catalog with UCI negotiated prices from many big suppliers (Fisher, NEB, VWR, Genesee, etc.).
- **PALCard:** a purchasing credit card, useful for buying things from vendors not on UCI Buy, but with certain restrictions (e.g. purchases must be less than \$5000). Getting a PALCard requires signing up for a training class, so you may want to start the process soon after arriving at UCI. PALCard purchases are reconciled and assigned to appropriate accounts by your financial analyst once you, as PI, approve it.
- **Manual requisitions:** a good option when UCI Buy or the PAL Card are not appropriate. Further information is available here: <https://portal.uci.edu/uPortal/f/kfs/p/tree-menu-portlet-Buying.u3111n25/max/render.uP?pCp> Your department may also have requisition forms that will need to be filled out.
- **Standing POs (Recurring Payment Requests)** can also be set up for certain types of purchases (e.g. sequencing). More details are available here: <https://procurement.uci.edu/procurement/how-to-determine.php>
- **Amazon:** Office supplies can be obtained from Amazon by setting up a free business account, which provides unlimited 2-day shipping of Amazon prime eligible items. Learn more by emailing procurement@uci.edu.

Keeping Track of Orders

A free tool for keeping track of purchases is Quartzzy.com. It allows all members of your lab to enter orders that can then be placed in UCI Buy, with a PAL Card or manual requisition. There is not an automatic way to make purchases from Quartzzy, but it does have useful tools, e.g. you can generate a requisition form (needed in some departments for PAL Card purchases). They will also work with you to make a custom requisition template that matches your needs. Alternatives to Quartzzy include a shared document (e.g. via Google Drive), database, or written list.

Odds and Ends

Advice on Computer and Other Technology Purchases: The BioSci IT staff can help with technology purchase questions (<http://comp.bio.uci.edu>).

Airgas or Praxair Accounts: Airgas can provide compressed gases, etc. Please contact procurement@uci.edu for vendor contact information. You can visit <https://procurement.uci.edu/ucibuy/catalogs.php> for detailed offerings from all suppliers.

FINANCES *continued*

Odds and Ends *continued*

Copier Codes: There are copiers in the following locations (<http://imageworks.bio.uci.edu/self-serve-copiers/>), and your financial analyst can provide a code for use.

Dry Ice: Dry Ice can be picked up in the loading dock of McGaugh Hall. Consult your department MSO for a key card to gain access.

Ethanol (<https://www.parking.uci.edu/distribution/alcohol.cfm>): Ethanol purchases can be made through UCI's Transportation and Distribution Services.

FedEx accounts: Ask your financial analyst for assistance in setting up a FedEx account for research use.

Freezer programs: Several companies have freezer stock programs at UCI, including Thermo Fisher, New England Biolabs, Promega (all in 3351 McGaugh), and Qiagen (2300 Bio Sci 3). These freezers allow you to purchase and pick up reagents immediately. For the latest information on how to use these stock freezers, which changes periodically, it is best to contact a representative at the company.

New PI Discounts: Many vendors will offer a new PI discount for your initial lab purchases. You can contact a sales representative to help with these discounts. If you are making a large volume or expensive purchase, you may be able to negotiate prices further.

Physical Sciences Store: A chemical stock room is available on campus (<https://ps.uci.edu/ps-stores>).

Sales Tax Reduction: You can pay a reduced sales tax rate for equipment purchases (<https://news.research.uci.edu/cg-news/reduced-sales-tax-for-research-equipment-effective-january-1-2017/>). Ask your financial analyst for help, as it will require you add a note to your requisitions.

Software (<https://www.oit.uci.edu/licenses/>): UCI and BioSci have access to free or discounted licenses for scientific, graphics, and office software. BioSci IT can help you identify or purchase licenses.

UCI Pricing: Some vendors will apply UCI pricing, but you may need to request it (e.g. IDT DNA, Retrogen, GeneWiz, Fisher).



LAB LOGISTICS

Writing a Lab Guide

It can be helpful to write (and keep up-to-date) a brief lab guide to establish expectations and lab procedures in your lab as it begins. Not only is this a helpful resource for lab members, but it can serve as a great record for a new PI, as you are deluged with lots of logistical information. Some suggested topics are:

- **Lab Mission**
- **Expectations for undergraduates, graduate students, post-docs, etc.**
 - o This can include key pieces of lab culture, e.g. expected work schedules, communication regarding time away, meeting frequency, funding amount and types.
- **A getting started checklist for new lab members**
- **Operating procedures**
 - o Safety
 - o Lab meetings
 - o Lab ordering
 - o Shared equipment
 - o Lab repositories (e.g. plasmid stocks, etc.)
 - o Lab jobs
- **Lab notebook & data archiving expectations**
- **Lab member contact information**

Establishing Lab Safety and Protocols

Depending on your research, you may need to establish research protocols with the Institutional Biosafety Committee (IBC, <https://ehs.uci.edu/biosafety/ibc/index.php>) for research involving recombinant DNA, viruses, carcinogens, other dangerous chemicals, the Institutional Animal Care and Use Committee (IACUC; <https://www.research.uci.edu/compliance/animalcare-use/index.html>) for animal work, and the Institutional Review Board (IRB; <https://www.research.uci.edu/compliance/human-research-protections/index.html>) for human work. You may also need a DEA license for controlled substance work (<https://www.ehs.uci.edu/research-safety/occupational-health/controlled-substances/index.php>) Each committee has staff members who can help you with the application process, and faculty members in your department can provide you examples of their protocols as starting points. Some of these protocols take some time to get approved, deadlines can be strict, and some protocols may be required before you can start experiments, so it is a good idea to prioritize this task.

As you start the lab, you will also meet with the BioSci representative of EH&S (Environmental Health & Safety) to begin the necessary safety documentation and to establish an account that allows your lab members to get Personal Protective Equipment (PPE; <https://www.ehs.uci.edu/research-safety/ppe/lab-ppe.php> or <https://www.ehs.uci.edu/research-safety/all-ppe/all-ppe.php>)

The EH&S landing page about research safety is at <https://www.ehs.uci.edu/research-safety/index.php>.

LAB LOGISTICS *continued*

Finding Your Scientific Community

There are many formal and informal groups on campus that may help introduce you to your broader scientific community and facilitate research advice and collaborations. In addition to developing relationships with your colleagues, you may want to join one or more ORUs or Centers, which will help you learn about seminars outside your department, meet collaborators, etc.: <https://www.bio.uci.edu/centers-institutes/> .

Odds and Ends

BioSci Core Facilities (<https://www.bio.uci.edu/research-2/research-facilities/>)

Data Storage (<http://www.google.uci.edu>): UCI account holders are entitled to a large amount of space on Google Drive.

Facilities Requests (<http://www.fm.uci.edu>): Requests for lightbulb replacement, other maintenance issues, lab cleaning, equipment moving, and renovations can all be made here. Your department's MSO can help you with complex or large requests.

Internet Jacks (<http://comp.bio.uci.edu>): The BioSci IT staff can help with activating internet jacks.

Peter's Exchange (https://portal.uci.edu/uPortal/f/kfs/p/uci-marketplace-surplus.u3111n29/max/render.uP?pP_action=faqView): A place to shop for surplus furniture and equipment

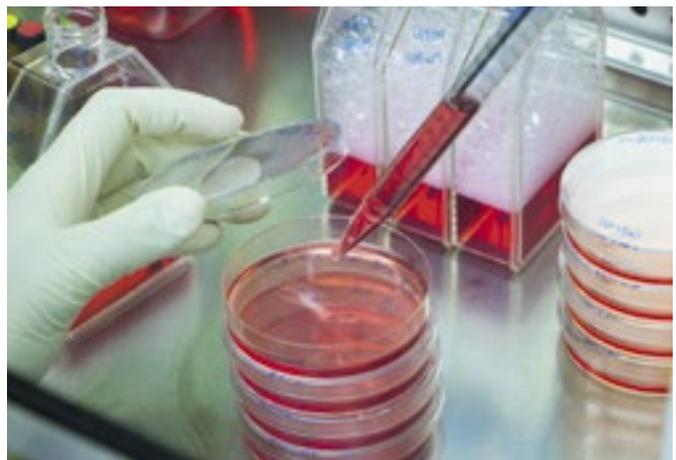
Room Reservations: (<https://www.bio.uci.edu/research-2/room-reservations/>)

Slack (www.slack.com): A chat-like tool that facilitates lab communications

Temperature Monitoring: Some faculty choose to use a monitoring system to track temperature or other environmental parameters in freezers, incubators, etc. There are many options, including DIY monitors (Sensaphone, etc.) or subscription services (<https://minus80monitoring.com>).

Travel and Fieldwork: Before planning travel for a conference or fieldwork, it is best to discuss your plans with appropriate department staff, who can help you with guidance on booking flights and accommodations, reimbursement practices, fieldwork permits, etc.

Websites: An option for setting up a lab website is to use the UCI Faculty Sites: <http://faculty.sites.uci.edu>. Alternative web services are listed here: <https://www.oit.uci.edu/web-hosting/>.



PERSONNEL

Recruiting and Mentoring Graduate Students

To recruit graduate students from the gateway programs like Cellular and Molecular Biology (CMB; <http://cmb.uci.edu>), Interdepartmental Neuroscience (INP; <http://www.inp.uci.edu>) and Mathematical, Computational and Systems Biology (MCSB; <http://mcsb.uci.edu>), contact the program administrators and ask about presenting during fall orientation or advertising via their student communications. Some departments also have direct admissions programs for recruiting graduate students. Before accepting a student in your lab, you may need to consult your departmental office staff or graduate advisor to ensure that you have the approval to accept the student, which is typically based on sufficient funding/support.

There are many resources for how to mentor graduate students (<https://www.grad.uci.edu/academics/mentoring.php>), and some key contacts for when you need help:

- **Departmental graduate advisor and office staff**
- **Associate Dean for Graduate Studies (<https://www.bio.uci.edu/school-leadership/>)**
- **UCI Graduate Division Counselor (<https://www.grad.uci.edu/services/health-and-wellness.php>)**

Recruiting Undergraduate Students

There are many undergraduates eager to participate in research, usually using the BioSci 199 program (<https://www.bio.uci.edu/research/bio-199/>). To recruit students, advertise in class (either on your own or by asking a colleague to advertise in large core courses), or post a description on the 199 website. Typically, you will get a large response, so devising some basic criteria for selection (coursework, a minimum hours/week commitment, a small task “quiz”) is wise. UROP programs provide opportunities for students to apply for funding during the semester and summer (<http://www.urop.uci.edu>) and to present at an annual conference. Students may also participate in Excellence in Research for additional recognition of their efforts (<https://www.bio.uci.edu/research/excellence-in-research/>). There is a substantial amount of work required for a student to complete Excellence. Be sure the student is committed to the program and aware of deadlines for successful completion.

Hiring Laboratory Staff

For each type of position (e.g. a lab technician), there may exist multiple titles and hiring mechanisms to fill the position. To begin the process, develop a short description of the qualifications, duties, and effort level of the position you hope to fill. Then contact the BioSci Dean’s Office Human Resources department (BioSci HR), who can help you decide the appropriate title and hiring mechanism. The position title may impact many aspects of the position, e.g. vacation and leave eligibility, benefits, and the expected duration of the position. Be sure to consult BioSci HR to understand the differences in the titles.

Hiring a student assistant early on may be helpful. There are many undergraduate students on campus seeking employment, many of whom are eligible for work study, meaning that their wages will be subsidized. These students can help with basic tasks like dishwashing, media preparation, animal care, and even clerical tasks like checking mail or delivering packing slips to your financial analyst. BioSci HR can assist you with advertising and filling these positions, as well. Asking colleagues to recommend undergraduates looking for employment is another effective way to hire a lab assistant or technician.

Volunteers are permitted and require a position and paperwork, which BioSci HR can assist with.

PERSONNEL *continued*

Taking Leaves

If you or any of the staff you supervise need to take a leave (maternity, medical, etc.), consult BioSci HR. They can assist in identifying what kind of leaves are available to you or the staff member and the correct paperwork to file for the leave.

Handling Personnel Issues

Issues with graduate students should first be addressed through the department's graduate advisor and chair as well as the Associate Dean for Graduate Studies, as discussed above. Issues with staff should be brought up with HR and/or your department MSO. If you are having an issue with a staff member you supervise, it is highly recommended that you document the issues and consult BioSci HR/your MSO as soon as possible. The staff in BioSci HR and your MSO, along with your faculty colleagues, can provide suggestions for addressing the issue, which is always easier to address sooner, rather than later.

If there are any accidents in your lab, they must be reported immediately to UCI Environmental Health and Safety (EH&S) (<https://www.ehs.uci.edu/forms/report-injury/index.php>) and BioSci HR to ensure that the appropriate records are developed for any resulting actions (e.g. worker's compensation).

Estimating Personnel Costs

Be sure to discuss personnel hiring with your financial analyst. It is important to get a careful projection of costs, because staff, postdocs and graduate students usually cost more than just their salary. There are also specified salary scales (e.g. http://ap.uci.edu/wp-content/uploads/2018_Salary-Scales.pdf). More information about fringe benefits can be found here: <https://research.uci.edu/sponsored-projects/rates-fees/fringe-benefits.html>



APPLYING FOR GRANTS

Strategizing When and Where to Apply and Establishing Relationships

Strategies for grant applications differ a lot depending on the granting agency and project. In general, apply early, since it can take years and several rounds of resubmission to be successful, and ask for advice. It is important to establish relationships with administrators both at the funding agency and involved in processing your grant at UCI (i.e. your pre-award analyst). This is a key and often-neglected aspect of grantsmanship. Particularly as a young investigator, you should contact administrators at granting agencies to ask their advice, alert them to your intentions to submit, and request updates on the status of your grant 's review.

Finding Help in BioSci

There are many people in the school who can assist with grant applications. **The Associate Dean for Research and Innovation** heads the team (<http://research.bio.uci.edu/staff/>). The Associate Dean is happy to help new faculty navigate the grant application process. In addition:

- The **Pre-Awards Supervisor and Analysts** can review program announcements, help develop budgets, create checklists with required documentation, route for internal approvals, and help with other grant development activities (JIT, Post-submission requirements). The pre-awards staff are located in 5201 Natural Sciences 2 and can be reached at bio-research@uci.edu.
- **The proposal preparation/submission timeline** can be found here: <http://research.bio.uci.edu/resources/>
- **The Research Development Officer** can help with identifying grant opportunities, editing, and grant preparation. See the UCI Campus Directory online for current contact information.
- **The Training Grant Officer** assists with preparation of training grants and the development of research proposals. See the UCI Campus Directory online for current contact information.
- **The Foundation Relations Office** (<http://grants.give.uci.edu>) can help with grant applications to private foundations. See the UCI Campus Directory online for current contact information.
- **The School's pre-awards team** keeps a database of successful grant proposals, which can be helpful as exemplars. Contact bio-research@uci.edu to gain access.
- **The R01 Bootcamp** is a yearlong program to help junior faculty succeed in obtaining their first NIH R01 (<https://www.som.uci.edu/research/nih-boot-camp.asp>). It is highly recommended.
- **A resource for boilerplate text about UCI research facilities** is available from the Cancer Research Institute (<http://cri.bio.uci.edu/research-resources/>).
- **Organized Research Units (ORUs) and Centers** on campus (<https://www.research.uci.edu/centers-institutes/organized-research-units.html>; <https://www.bio.uci.edu/research-2/research-centers/>) can administer your grant as well and often have pre-award analysts.

TEACHING

The departmental vice chair is generally in charge of organizing faculty and student teaching assignments and should be consulted with any questions.

There are many on-campus resources to help you develop your teaching skills:

- **Division of Teaching Excellence and Innovation:** <http://dtei.uci.edu>
 - New Faculty Teaching Academy covers the basics
 - Developing online teaching tools and teaching well in Canvas (an online course-management system)
 - TA training and resources for directing course TAs
 - Support and resources for teaching large lectures
 - One-on-one brainstorming and course planning
 - Workshops and reading groups
- **Classroom technology:** <http://www.classrooms.uci.edu>

Classroom technology representatives can help you get familiar with different technologies and also let you preview the classroom you will teach in before your first class.
- **Information on each classroom:** <https://classrooms.uci.edu/classrooms/>
- **Office of Information Technology**
 - Troubleshoot problems
 - Access class rosters, send class emails, submit grades
- **UCI Schedule of Classes:** <https://www.reg.uci.edu/perl/WebSoc>
- **Imageworks can help with printing tests and other materials:** <http://imageworks.bio.uci.edu>
- **Disability Services Center can administer tests to students with a need for accommodation:** <https://www.dsc.uci.edu>
- **HHMI-UCI Professor Program:** <http://faculty.sites.uci.edu/dkodowd/home/faculty-resources-main/>

This collection of white papers will guide biology faculty on teaching large lectures at UCI, including effective clicker use, TA training examples and exam writing and administration.

SERVICE

Faculty members are expected to serve their department, school, and university in various capacities, which can vary considerably from one individual to another. Service can include serving on standing or ad hoc committees, as well as several service positions, e.g. graduate advisor. The department chair is generally in charge of organizing faculty service obligations and should be consulted with any questions. Service is typically minimal for Assistant Professors and increases with seniority, but all UC faculty are expected to participate in annual departmental evaluations of faculty merits and promotions.

TENURE AND PROMOTION

The Office of Academic Personnel regularly hosts information sessions on tenure and promotion. You will be emailed an invitation when these events are planned. Materials from previous meetings are available on their website (<http://ap.uci.edu>). Academic Personnel has also written a manual: <https://ap.uci.edu/faculty/>

The UC system Academic Personnel Manual (APM), which is the authority on all matters of Academic Personnel, is available here: <https://www.ucop.edu/academic-personnel-programs/academic-personnel-policy/index.html>

The Academic Personal Procedures (APP) describe the implementation of the APM: <http://ap.uci.edu/policies-procedures/app/>

The Office of Inclusive Excellence hosts many programs to help assistant professors successfully navigate the tenure process (<http://inclusion.uci.edu>). Specifically, the ADVANCE funding programs includes funds to attend the Faculty Success Program and funds to assist faculty with young children attend conferences by covering related costs (<http://inclusion.uci.edu/advance/funding-programs/>). The School's equity advisor is another key resource for assistance with the tenure process (<https://www.bio.uci.edu/school-leadership/>).

USEFUL RESOURCES

- **“At the Helm: A Laboratory Navigator.”** Barker, Kathy. Cold Spring Harbor Press.
- **“Making the Right Moves.”** <http://www.hhmi.org/developing-scientists/making-right-moves>. Howard Hughes Medical Institute.
- **“How to Build a Motivated Research Group.”** Alon, Uri. Molecular Cell.
- **Materials for Nurturing Scientists.** <http://www.weizmann.ac.il/mcb/UriAlon/materials-nurturing-scientists>
- **New PI Slack:** <https://newpislack.wordpress.com/contact/>

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