

“Running a Great Lab”: Notes from Session #1, “Elements of a Great Lab”

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6201 MSB

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1) Introductions

2) Short review of purposes of the PI workshop

- a) Supplement resources available in graduate school, new faculty workshops
- b) Concentrate on special role of PIs
- c) Target the toughest part of job as a new faculty PI—getting your lab up and running

3) Brainstorm session: Elements of a great lab

- a) Funding
- b) Personnel, including mentoring of students/postdocs
- c) GOOD SCIENCE
- d) Management
 - i) Project management
 - ii) Personnel time
 - iii) Lab management
- e) Manage own time
- f) Collaboration (extended discussion)
 - i) Increasingly important
 - ii) Bring in other experts
 - iii) Attack complex problems
 - iv) Lots of people to collaborate with on campus
 - v) Collaborate early
 - vi) Pitfalls!
 - (1) Choose collaborators wisely
 - (2) Be aware of status differences between you & collaborator(s)
 - (3) Protect the interests of your lab
 - (4) Pay attention to how your collaboration will look at tenure time, especially when collaborating with colleagues on campus
 - (5) Important to not collaborate with previous mentor

- (6) The INDEPENDENCE of your program is paramount. Document it.
Make sure letter-writers can attest to your independence.
- vii) Journals are moving towards complete attributions of collaborators
- viii) Authorship an issue, make sure you are senior author, make sure you have other publications without your collaborator
- ix) Your mentoring committee can help with these issues
- g) Publications
 - i) Don't break the cycle/momentum of your publications and funding. Spread out your publications evenly, don't "save them up" for the year or two prior to tenure.
 - (1) Dangerous to wait
 - (2) Better for funding
 - (3) Might get scooped
 - ii) What number of pubs do you need? Varies by field. Data collection takes varying amounts of time at startup.
 - iii) Keep multiple projects going of different lengths, short- and long-term projects
 - iv) Pay attention to which journals are the "good" ones in your field, look at impact factors
 - v) Should you publish not-so-good data in low-impact journals, or concentrate only on high-impact publications? Ask yourself, "Does this article enhance my reputation and that of my lab?" If yes, then publish, even if minor.
 - (1) Or, can graduate students author these minor papers, freeing up your time?
 - vi) Be closely involved in all papers coming out of your lab.

4) What is the role of PI?

- a) Get funding! Make a plan from the beginning.
 - i) It is harder to get renewal on a first grant than to get the first grant itself.
- b) Publish papers
- c) Put a good team together—staff your lab
 - i) Do you get a postdoc, or a technician?
 - ii) How about grad students? There is a lag time in publications from grad students.
 - iii) Many good postdocs come from abroad
- d) Management
 - i) Solving problems among people in the lab—YOU are responsible for solving conflicts
 - ii) Meet with lab personnel OFTEN, in groups and individually. Keep notes from all of these meetings.

5) What are some common problems new PIs face?

- a) Time it takes to train people
 - i) Maybe train one person, who can then train others in the lab
- b) Must delegate responsibility
- c) Choose your lab employees carefully. New PIs have trouble getting the best people

d) Give employees their expectations up front

6) How do you stretch your startup?

- a) Get equipment at SWAP, especially for non-critical things.
<http://www.bussvc.wisc.edu/SWAP/> .
- b) Go to the chemical safety page for free chemicals
<http://www2.fpm.wisc.edu/chemsafety/labscan.htm> .
- c) Use eBay, used equipment vendors
<http://www.sci-bay.com/> .
- d) Who does the purchasing, you or a lab manager? At first, you should closely monitor all spending and purchases, even though it takes a great deal of time. It is dangerous to let someone else spend your money, until your lab and your relationship with the employee are well-established.
- e) Track your funds closely.
 - i) Find out how your department tracks spending and work with them.
 - ii) Use tools like Wisdm, Snapshot. We'll cover Snapshot in October.
- f) Get free samples from vendors. Can get good deals especially at the end of the quarter.
- g) Ask vendors for discounts on old models of needed equipment.