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

Sept. 25, 2008
6201 MSB
Facilitators: Teri Balser, Amy Charkowski, Allen Laughon
Evaluator: Christine Maidl Pribbenow
Organizer: Jennifer Sheridan
Participants: Weibo Cai (Radiology); Amin Fadl (Animal Sciences); Thomas Friedrich (Pathobiological Sciences); Joan Jorgensen (Comparative Biosciences); Wan-Ju Li (Orthopedics & Rehab Medicine); Wen Li (Psychology); Jim Luedtke (Industrial & Systems Engineering); Alessandro Senes (Biochemistry); Snezana Stanimirovic (Astronomy); Beth Weaver (Pharmacology); Yongna Xing (Oncology); Wei Xu (Oncology).

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
   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.