Building Your Research Group

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General Thoughts

- The goal of your research program - gain tenure and establish a strong reputation
  - Do things that support this goal
  - Do NOT do things that interfere with this goal
- How you set up your research group will help determine your success
- Worry about results, funding and people!

Research Group Elements

- People
  - Undergraduates
  - Graduate students
  - Postdocs
  - Technical support staff
- Space
  - Place for people, equipment, materials and supplies

Motivating Your Group

- Find students who will work hard
- Find ways to avoid or dismiss students who will not work hard or are disruptive or dishonest
- Support your students and their learning process
  - Provide guidance
  - Provide feedback on their work and their writing

People

- Graduate Students
  - What are departmental expectations for number of graduate students per year?
  - Will graduate students also be TAs?
  - What are the processes for evaluation and advancement to candidacy for graduate students?

People

- Graduate Students
  - Career partners
  - Their success is your success
  - Your success is theirs
  - No student is better than a bad student

People

- Postdocs
  - Does department have prejudice for/against postdocs? Favor graduate students?
  - How difficult is it to recruit postdocs?
  - Are there university resources for postdocs?
  - Expect strong productivity
  - No postdoc is better than a bad postdoc

People

- Undergraduate research students
  - How many can you reasonably manage?
  - What are departmental expectations for undergraduate research mentoring?
  - How do you strike the balance?
  - Using graduate students/postdocs as in-lab mentors for undergraduates can be a very successful strategy

People

- Technical staff
  - Have clear job description
  - Ask a colleague to help in interviews
  - Are technical staff the best use of your resources?

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Keeping Up

- Have regular meetings with each member of your laboratory
  - Be aware of what they are doing
  - If they need assistance, figure out the best way to guide them forward
- Have lab members write regular reports that can form the basis for publications
  - Use outlines to plan publications
  - Sketch figures/tables
  - Easy way to see what they are thinking and provide feedback

Keeping Up

- Create a team environment
- Involve senior graduate students / postdocs
  - Setting research agenda
  - Grant writing
  - Mentoring junior group members

Personnel Management

- Establish a positive “lab culture”
- Have regular lab meetings to discuss research and papers in your area
- Be proactive in addressing personnel conflicts (or potential conflicts)
  - Get help if you need it
  - No one wants a caustic/poisonous lab environment
- Aim for colleagues rather than friends

Create Clear Expectations

- Consider a “compact” document that outlines your expectations that you review with students and that they sign
  - Include information on backups for data/computers, books, chemicals, code, coursework, FAX use, funding, human subjects, lab duties, lab safety officer, new member orientation, use of equipment, website

Create Clear Expectations

- Provide clear guidance on
  - Lab notebooks
  - Literature coverage (shared in lab meetings)
  - Attendance at meetings
  - General comportment
  - Publications
    - Order of authors/responsibilities
  - Engagement in manuscript review/grant review

Create Clear Expectations

- Safety issues and procedures
- Security of the lab and its people
- Software policies
- Travel expectations
  - How often/who will fund/who must present
- Vacations
- Progress reports
- Work hours

Recruiting Graduate Students

- Volunteer to serve on the admissions committee
- Teach classes geared for graduate students
- Mentor graduate students as they enter the department

Non-experimental Space

- Be sure that your office is placed in the relationship you desire with respect to your group members
  - Some like it close, some far away
- Arrange your office to support your working style
- Embrace your independence
  - From your mentors/advisors
- In some disciplines, the work you are judged on is independent of your group's work!

Physical Space

- Moving into existing space
  - Proximity to colleagues
  - Access to department/university equipment
  - Proper utilities for equipment
    - Electrical, air, vacuum, water
  - Hoods
    - Chemical, tissue culture
  - Air handling
    - Vibration issues, flow issues, etc.
  - Office space for students/postdocs
    - Separate or within lab?

Physical Space

- Renovating space
  - Negotiate for a tenure clock extension if your delay is >4-6 months
  - Same issues apply as for existing space, but you have some choices!
  - Think carefully about what you need for your work
    - Electrical, clean power, ventilation, hoods, plumbing, chilled water, air flow from the HVAC system, *everything*
  - Do careful research about what you need
    - Contact vendors for equipment specifications and problems identified at other institutions
    - Ask colleagues about problems encountered at your institution

Physical Space

- Renovating space
  - Learn from others about renovations
  - Work with the architects/contractor to get your project within the assigned cost range
  - Be *actively* involved in every state of the process — follow process regularly
  - Ensure that what you need is being taken into account, especially completion date
  - *Be prepared for delays*
    - Write grants or papers, prepare for teaching

Physical Space

- Organize how you will move in
- Think about what you will do and in what order
- Ask for space to work temporarily if there are things that you can get going
- Take the time to engage your colleagues and learn more about the department

Equipment

- Seek discounts
- Negotiate with multiple vendors for the best price
- Allow sufficient lead time for items that are complex (1-6 months for large equipment)

Supplies

- Talk with multiple vendors (bulk discounts from some with large orders)
- Package as much as possible with each individual vendor for best price
- Consider larger quantities of items that "keep" and that you know you will need
  - Biggest discount you'll ever get!
  - Think about storage strategies

Continually Think

- Keep reflecting how things are working (arrangement of space, interactions among lab members)
- Take steps to make changes that would make a difference
- Be sure to think about your joy in the work and the ways you can inspire your team!

Have fun!

Questions?

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