

# Setting Up a Lab

This session will provide an overview of what it takes for junior investigators to set up their own lab when they begin an independent faculty position. We will discuss the strategies for equipping a lab, applying for new investigator grants, and hiring technicians, postdocs, and students. Additional topics will include appropriation of time and resources, setting up collaborations, and establishing an independent research program. There will be ample time for Q&A during this session.

# Running a lab – The art of multitasking

- Running a lab is not necessarily harder than being a postdoc. You do a lot of different tasks in a day, but most of them don't require the same level of intensity and focus that benchwork does.
- Seamlessly going from one task to the next is an important skill necessary to being a successful PI.
- Science and the art of communicating science in many different formats is what this job is mostly about.



# You know what to do: 1) publish papers 2) get grants 3) some teaching

- The **Most Important** aspect of your new job is establishing your research program.
  - Be at the bench doing experiments and training your people!
- Consider joining lab meeting of an established investigator. Be selective.
- You should be the best judge of what you need to do for your research program.
  - Listen to senior faculty. Listen to junior faculty.
  - Don't blindly follow advice.

# **You know what to do: 1) publish papers 2) get grants 3) some teaching**

- **Obtaining funding is paramount to your success and chances of tenure.**
- New investigator grants are a great opportunity to expand your lab.
  - Many are unavailable after your 1<sup>st</sup> R01.
  - Speak with your department chair about being nominated.
  - Ask the grants office for a list.
  - Google
  - Speak with other junior faculty that have them.
- Get help with your first, second, third R01s. Identify a mentor. Get others to read and critique your R01. Speak with Program officials.
- Never take rejection personally. Get help with resubmissions.

# Setting up a lab – Paying for it

<b>Equipment</b>		<b>price each</b>	<b>extended</b>
AKTA EXPLORER FPLC, including columns and service contract	GE Amersham Biosciences 13470601	\$49,000	\$49,000
Spectramax M5 Microplate Spectrophotometer including service contract	Molecular Devices M5	\$55,858	\$55,858
Clinical Centrifuge + rotor + adaptors	IEC ThermoElectron	\$2,755	\$2,755
Fisher Isotemp waterbath	15-460-28	\$1,007	\$1,007
Lab Counter (2 channel) (2)	Fisher 02-670-12	\$102	\$204
Hemacytometers (3)	Fisher 02-671-5	\$160	\$320
Tissue Culture Microscope	Nikon TS10	\$4,000	\$4,000
Pipet-Aids, Drummond (2)	Fisher 13681-16	\$250	\$500
Double CO <sub>2</sub> Incubator (2)	Revco Ultima	\$24,000	\$24,000
Laminar Flow Hood (2)		\$20,000	\$20,000

Negotiate with several vendors.

Do you really need everything from your wish list immediately?

Good service is critical for big ticket items, i.e. microscopes.

**Personnel \$\$\$\$**

# Setting up a lab – Paying for it

## Personnel \$\$\$\$

**Beginning Postdoc** - \$38,496 + Fringe (9%-32%)

**5<sup>th</sup> year postdoc** - \$48,900

**Technician** – 30,000-42,000 + 23-32%Fringe

**Graduate student (UPENN)** 33,000

**Your Salary** -\$\$\$ + Fringe

**Consumables** – \$20-30K per person

- Usually want to start with 1 technician and a postdoc. Those with good startups or early investigator awards may start with more.
- Students are often free for the first year.
- Be determined to bring in money. Be aggressive, not reckless.
- Ask and be creative. Training grants etc.

# Hiring – The most important decision

- Call important referees. Recommendation letters are often only partially accurate.
  - Ask questions on strengths, weaknesses, where they rank among trainees.
  - Play on sympathy for junior faculty. “I’m just starting out and can’t afford to hire someone who isn’t excellent.”
  - Be wary of hiring someone that was let go because of loss of funding.
- Interview everyone in person if possible.
- Hiring techs directly from College vs Experienced Techs.
  - Recommend 2 year minimum commitment.
  - I recommend the person over the experience.
- Finding good postdocs:
  - Luck
  - Free postings from university website
  - Find established faculty to send postdoc applicants.

# Hiring – The most important decision

- Getting rotation students
  - Word of mouth (Make sure your web page is setup ASAP).
  - Getting known by graduate programs.
  - Students often like young labs
  - Do admissions interviews
  - Teaching
- Training Personnel
  - No matter how talented, every trainee will require some direction (especially at the start).
  - Be at the bench!
  - You are responsible.
- Paying for Personnel (Be flexible and hustle!)
  - Training grants for graduate students and postdocs (U.S. citizens)
  - Internal University pilot grants.
  - Find out what fellowships are available for foreign students/postdocs
  - You have to make some assumptions that you will bring in money

# Saying Yes and No

- You will be asked to do a lot of things. Committees, teaching, helping other labs.
- Ask your chair or another established faculty when in doubt.
- Be a good colleague -almost never say no when asked to help someone scientifically.
- Some committee work may be important. Learning new things, expanding your network of people.
- **Remember that your research program is what got you here and what will keep you here.** Some service is required. It shouldn't ruin your lab.