Creating a Timeline for Success in a Basic Science Lab

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Disclosures

- None
Your timeline should be organized to meet your goals
Goals

• Present abstracts
• Publish manuscripts
• Obtain grant funding
• Match into Fellowship
• Gain experience in new area or with a technique
• Decide if you desire a future as a basic scientist
• Create a solid foundation on which you can establish your own lab after clinical training
Timeline Overview

• 12-6m prior: find the right lab & mentor
• 6-0m prior: discuss potential projects, grants
• 0-1m: lab orientation
• 0-3m: background reading & write review paper
• 1-6m: learn techniques, collect prelim data
• 6m prior-6m: submit grants
• 6-18m: collect data, submit abstracts & papers
• 18-24m: same as 6-18m & revise papers
• 21-24m: transition projects
12-6m prior: find the right lab & mentor

- Refer to prior lecture by Dr. Frankel
- Word of mouth
- Trusted mentors
- University/Lab website
- NIH reporter
- Pubmed
6-0m prior: discuss potential projects

- Meet with your PI
  - *Read recent papers before meeting
- Tour lab, meet lab members
- Discuss potential projects that may be ready when you join lab so you can hit ground running
- Discuss possible grants
- Required paperwork
0-1m: lab orientation

• Familiarize yourself
  – Lab space
  – Equipment
  – Personnel

• Training
  – General lab/biohazard
  – Animal Facility
  – Computer software
0-3m: background reading & write review paper

• Background reading
  – PI/PostDoc can help direct you to key papers

• Write review paper
  – Background reading will help you prepare for this
  – Most PI’s have regular review opportunities available (such as an invited review)
1-6m: learn techniques, collect prelim data

• Learn necessary techniques to conduct experiments for your project
• Collect prelim data that you can use in a grant
6m prior-6m: submit grants

- Submitting grants is a Catch-22
- You may be able to submit before you are in the lab if you have prelim data given to you
- If not, you need to generate prelim data to submit which requires some time
- Either way, best to submit a grant early so it will fund while you are still in the lab (many don’t fund until the following year)
  - AAS, SUS, ACS
  - Sub-speciality or society grants: APSA, CIRM, Crohn’s & Colitis Foundation, etc.
6-18m: collect data, submit abstracts & papers

- Collect data
- Make a table of all abstract deadlines
  - AAS qAugust for February meeting
  - ACS qMarch for October meeting
  - Sub-speciality meetings
- Decide with PI where to submit papers
  - Some may be associated with abstracts/meetings
  - Basic science vs clinical/society journals
18-24m: same as 6-18m & revise papers

• Submit papers as early as possible
  – It may take 3 months for the reviewers to respond
  – It may take another 3 months for you to perform the necessary experiments to respond back
  – You don’t want to do this when you are out of the lab and back in residency
21-24m: transition projects

• Even if you submit papers early you will need to transition ongoing or unfinished projects
• Keep an organized lab notebook
• Preferably arrange a time to handoff in person
Tips & Tricks
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• Read every day
  – Critical literature appraisal is a learned skill
• Write every day
  – Writing published manuscripts and funded grants comes with practice
• Keep an organized lab notebook
  – Hardcopy vs electronic (evernote, labarchives)
• Take advantage of schedule & time
  – Grant writing courses, classes, journal clubs, etc
• Have fun
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