Session Description (9:45 - 10:45am):
Flash forward - you have been offered a job - congratulations! But now the challenges really begin. One of these challenges is setting up your lab. It sounds easy...and fun! Alas, setting up your lab requires critical planning to insure your success and eventual tenure. This session will discuss strategies for setting up your first lab as well as how to get your lab up-and-running.

Matthew Kirby
California State University, Fullerton
Department of Geological Sciences

disclaimer: below are Dr. Kirby’s opinions based on 10 years experience...obviously, there are many other views on how to set up a lab…please consider them all, as appropriate
Setting up a research lab

• What do you need?
• What do you want?
• Who will work in your lab?
• How will you maintain/fund your lab?
• Let’s do something fun! Plan your lab.
Setting up a research lab

• What do you need?
  • how much space do you require? minimum...assume you’ll never up-grade.
  • equipment? now and future?
  • always think in terms of tenure!
    • in other words, what do you need to secure tenure?
      • BUT, think carefully!
        • setting up a lab takes longer than you think
        • using your freshly set-up lab takes even longer!
          • plan for set-backs
  • so, let’s rephrase the initial question
    • what do you need ASAP to keep your research moving forward
      • there are many examples of faculty who did not receive tenure because their lab took too long to set-up and thus to produce data
Setting up a research lab

• What do you want?
  • what you need is not the same as what you want.
  • what you want are items that are helpful, but not necessarily critical to your tenure clock
  • for example…
    • you want a IRMS, but it is risky because it is temperamental and time consuming
    • is it possible to run analyses elsewhere as you set-up your IRMS lab in, say, two year?
  • how do I get expensive equipment I want that is not covered in my start-up?
    • grant! e.g., NSF equipment/facilities
Setting up a research lab

• Who will work in your lab?
  • will you have a dedicated technician, if necessary?
  • if not, who will manage the day to day duties?
  • as a professor, lab work is a huge time sink IF you intend to also write papers and grants
  • a productive lab requires labor - not yours!
• who will train your students?
• what mix of students will use your lab?
  • BS/BA theses? required?
  • graduate level? MS only? PhD? post-docs?
• how will you fund student work...most students do not work pro bono
  • plan to write in $$ for undergraduate workers in ALL grants (as allowed)
  • NSF loves it!
• undergraduate students are particularly helpful, but there is a steep learning curve AND they have a short lab life
• will you offer paid lab services?
  • if yes, who will manage invoices? billing? labor?
Setting up a research lab

- How will you maintain/fund your lab?
  - flash forward...your lab is set-up using start-up funds
  - now, it is up to you!
  - how much support will your department/university provide if a major piece of equipment breaks and there is no warranty?
  - how will your research be impacted if a major piece of equipment fails?
  - can you trouble shoot complex equipment?
- have you made a budget to fund your lab over time?
- if you provide paid lab services, have you determined a price capable of covering expendables, labor, AND long term equipment maintenance?
Setting up a research lab

• Let’s do something fun! Plan your lab.
  • sketch your “dream” lab
    • water, fume hood(s), ductless fume hoods, DI water, ultra-pure water, gases, clean space, wet space, large spaces, storage, cold room, etc...
  • consider work stations to avoid over crowding
  • develop a start-up list
    • both a need and a want list
CSUF Kirby Paleoclimatology Laboratory (DBH 175)

- Lab mud fridge
- Lab Coats/student bags
- LOI prep and weighing and computer
- EA weighing scale and prep.
- remove cabinet door for leg space
- remove cabinet door for leg space
- microfossil and 14C prep. and counting station
- magnetic susceptibility and computer
- remove cabinet door for leg space
- EA comp.
- EA
- future coulometer
- EA gases; new rack required
- need 208-230V
- need 240V
- muffle oven
- muffle
- oven
- separate walk in cold room in MH
- muffle oven
- muffle
- oven
- muffle
- oven
- muffle
- oven

example

Lab Coats/student bags
LOI prep and weighing and computer
EA weighing scale and prep.
remove cabinet door for leg space
remove cabinet door for leg space
microfossil and 14C prep. and counting station
magnetic susceptibility and computer
remove cabinet door for leg space
EA comp.
EA
future coulometer
EA gases; new rack required
need 208-230V
need 240V
muffle oven
muffle
oven
muffle
oven
muffle
oven
muffle
oven

fume hood
malvern prep. area and centrifuges
malvern comp.
malvern
sink
two drying racks
drying oven
core opening
sampling
photography

Wednesday, August 10, 2011
## Need Start Up List

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(If needed, fill in the table with needs and their corresponding costs.)
# Want Start Up List

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