PAD Seminar: How to Develop and Maintain a Research Lab

- **A mission and vision for your research.**
  - Leading a research group requires **strong leadership** and **management skills**
  - Leadership: Create a vision for the lab and set the direction, inspire people to endorse and perform your vision, be a facilitator and a motivator (and oftentimes the one who pulls the plug!)
  - Management: all the “boring” duties to make your lab run smoothly.
  - **A mission**: more than having expensive toys paid for by tax dollars to satisfy your general curiosity about several things. **What is(are) the problem(s) you want to solve?**
  - **A vision**: How will you proceed towards accomplishing this mission?
  - A vision should encompass your **beliefs about science**, and how you want to use your knowledge to accomplish scientific, teaching/mentoring and service goals
    - The Verani group aims to be the premier US group in the field of metal-containing surfactants. We will use a multidisciplinary approach that encompasses coordination and surface chemistry. We will adopt methods of synthesis, spectroscopy, film formation and microscopy to develop redox- and photo-responsive films to tackle current problems related to information storage and water splitting.
    - Such a vision **changes with time**. Fluctuates with **funding**.
    - Many labs have **unrelated areas of expertise**, ergo **different visions** might be needed. No need to invoke the “one size fits all” approach.
  - Consider your teaching duties I:
    - What you want your **students in the lab** to accomplish. (motivation, goals, setting goals, evaluating results)
  - Consider your teaching duties II:
    - What you want your **students in the classroom** to accomplish. (Do you even care for them?)
  - Consider your duties as a citizen: **volunteer your talent**. Reach out to promote science.
• Resources for new faculty.

→ Before starting: Document what was promised during negotiations.

→ After you start: Document what was delivered upon your arrival.

→ “In order to lead you must be able to follow”: Learn the dynamics of your department. At a first moment you adapt to the department, then, you change it.

→ Find good colleagues, and hopefully a few good friends. (Talk to people, extend your network of contacts, reach out, don’t hide in your brand new cave)

→ Find mentors: (a mentor is not necessarily a good friend)

→ Ask for help and show genuine interest in learning.

→ Keep in mind that suggestions given by your mentors may or may not be accepted by you.

→ Keep an open mind: Think like a child and the sky is the limit.

→ Give yourself the trouble to remember names, not only of “important people.”

→ Read books on leadership, management, communication skills, time management.

→ Read “Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty”

Early in the career: research trumps any other activity.

Later: excellent research + teaching and service:

→ Attend meetings: pick at least 2-3 important ones. If possible give a talk. If not present a poster. Show your face

→ Think “grants;” Plan on how to support your ambitions and ego. (internal money is sweet but you got to go extramural in order to be competitive)

→ Establish a few productive collaborations.

→ Let your program officer know who you are. Call them, bug them but don’t annoy them!

→ Offer your knowledge: panels, paper and proposal reviews.