

# *Planning the Pathway to Professorship*

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## *Do I Want to Go Into Academics?*

- Research Academics
- Teaching/Research Academics
- Teaching Academics
- In my opinion, the pathway is can be similar, yet the expectations will be different.
- The other point of advice is that you really do not need to decide now.
- The goal is daunting-the dream may seem far-but just like all goals, each step will make a difference.

# *What do I look for in a Curriculum Vitae?*

- Where did you go to School? UG, Grad, and Postdoct. Who did you work for?
- Did you work in an emerging area of research? If not, do you have the skills for cutting edge research?
- Did you win any awards?
- How many publications do you have? How many are significant and in good journals? Are you the first author? Did you have publications as an undergraduate? Postdoctoral? Are you first author?
- How strong is your Ph.D. advisor's and postdoctoral advisor's letter?
- Have your advisors placed other students in academics?
- Are your proposals in hot areas of science?
- Are your proposals creative? Are the proposals competitive? Can the work be accomplished? Who will be their competition? Strong enough for funding? Can I understand the proposal? This is my first piece of evidence that you are a good teacher.
- Do you appear to be collaborative and collegial?
- Are you a good writer?

## *Pathway and Expectations*

- Undergraduate experience. Your undergraduate school can help, but does not limit you.
- Graduate school. It is what it is. You are already in graduate school. You already have an advisor. Make the best of it.
- Different pathways can still yield very strong results.

## ***Dance With Who Brung Ya***

Decide what you are and go with that.

1. Creative
2. Hard worker\*
3. Careful and methodical scientist
4. Great teacher\*
5. Great mentor
6. Really, really smart
7. Productive\*
8. Fun to be around-great colleague

You must have 1 or 3 or 6 and 2, 4, and 7 are musts. 8 will make it easier to get a job.

Do not be what you are not. If you are not dynamic and really fun-go with 3 and/or 7 and/or 6.

# ***How to Get a Good Rec. Letter?***

You will need an excellent letter from your advisor. This will be one of the most aspect of your application.

- Good relationship with your advisor is important.
- good way to get extra publications, network with senior colleagues at other universities, and show your boss that your are motivated.
- Push to publish. Make sure that you know what results and experiments that your boss expects exactly.
- Be a good mentor to undergraduates. Their success is your success.
- Be a good colleague.
- Read the literature, go to seminars and scientific meetings-it will help you with ideas. Keep a notebook of ideas. It only takes 2-3 ideas.
- Be appropriately aggressive
- Be visible.

# *How Do I Get Publications and Do Great Science?*

- Look for surprises and explain them.
- Use sunscreen. Work hard-this is the only advise that I am sure of. Most results come with hard work. Sometimes you will need to distill or chromatograph into 40 fractions and take NMRs of each one.
- Solubility is important.
- Make the tosylhydrazone of acetone.
- Three weeks in the lab with save you 1 day in the library or on the virtual library.
- “They are the enemy-we must take their knowledge.” Go to meetings and read the literature. Most problems have already been solved for you. Ideas from others will help.

# *What is your secret weapon when you are looking for a job?*

What sets you apart?

My secret weapon was that I knew about the physics, chemistry, and design and synthesis of materials, along with a deep understanding of self-assembly, bioorganic, and host-guest chemistry. Most of my competitors know synthesis, but not design and the physics.

Proposal 1: Hydrogen bonded Self-Assembly in Conducting Polymers

Proposal 2: Ferrimagnetic Exchange Coupling in Charge Transfer Complex-Metal Hybrid Systems.

Proposal 3: Model Systems for Artificial Photosynthesis



## *The Rick McCullough Pathway*

- A/B/C high school student
- Eastfield Community College 3 years
- University of Texas at Dallas, cum laude
- Johns Hopkins University, Ph.D.
- Columbia University, Postdoctoral
- Assistant Professor Carnegie Mellon
- Associate Professor, Professor
- Department Head, Dean, Vice President for Research
- Thomas Lord Professor of Chemistry