Criteria for Tenure: Pillars of Academia

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From many sources and friends… thanks to all…

Official Timeline

- Finish your PhD, and get an academic job in 200X
- Tenure clock starts in Fall 200X
    - Mostly you are your own for 5 years
    - Invest/spend what is needed to make you successful
- Annual merit evaluations
    - Good feedback but not used in tenure evaluation
- End of 3rd year, mid-evaluation (pre-tenure evaluation)
    - Dept. faculty, chair, dean…
    - Early feedback; But termination is a possibility
- End of 5th year, tenure evaluation
    - Reviewers, Dept. faculty, chair, college, dean, university, provost, president
    - ***Promote with tenure*** or Terminate
    - Now your legal rights!

What should you do?

- Tenure process is like raising your baby.
- When tenure clock starts, you get a baby.
- A lot to do before the baby was born
  - Fill your pipeline with research papers, ideas, etc
  - Be part of a research community
- Much more to do after the baby was born
  - **Research (excellent) - letters**
  - **Teaching (above average)**
  - **Service (average)**
  - Other factors
    - Needs and policies of your University
    - Be collegial, scholar, honest, ethical, respectful, active, effective, …
    - Make friends (be natural) and fit into your dept.
- Learn what is expected by your department/college
  - Ask chair, senior people
  - Learn previous cases

Research

Are you a good researcher?

- Sure, after all you have PhD!
- But now the questions are: can you
  - do/publish research independently
  - write proposals and obtain external funding
  - lead research teams and advise/graduate students
  - collaborate with other researchers
  - be known by the research community

Excellence in Research

- **Quality of publication**
  - Publish in *provably* top outlets
  - Focus and Depth are important
  - Regularly check your citations
    - SCI, Google scholar, ACM/IEEE Digital Library, etc.
  - Identity – be part of a community
- **Quantity of publication**
  - Papers after your PhD
    - Without your advisor
    - With your students, collaborators
  - Books, chapters, etc. can wait after tenure (depending on field)
- **Funding (depending on field/area)**
  - At least one competitive PI grant
  - Another significant grant

Establishing Identity in Research

- **Don't be too ambitious. Be realistic.**
  - Stay focused
  - Don't change your general direction too much
- **Don't be over-optimistic**
  - After 3-4 years, you won't have a much better background
  - Look at past, how much you progressed is a good indicator on how much you will
- **Focus on 1 major and 1 minor area**
  - Give your best to what you do
  - Don't diverge too much
  - You need a name on a certain topic

Writing Papers

- Successful Academicians are Good Writers
- Have a **point**
  - Make sure you have something to say
- The story must have a **flow**
  - Step-by-step (as if you are telling it to your friend)
  - Easy to follow organization
  - Use subsections, bold paragraph heads, some itemize, etc.
- Be clear, use **examples**
  - Readers won't read/understand all the details. Do you understand others?
  - Pictures, graphs
- Write for the reader; not for yourself

Papers - Presentation

- **Technical motivation** before introducing technique
  - ❑ Intelligent moves that hints & leads to the proposed technique
  - ❑ Excite the reader before you introduce the (usually boring) technical stuff
- Provide **intuitions** for technical material
  - ❑ **Why** your technique works
  - ❑ What things mean in practice, intuition in easy term
  - ❑ Math formulas are nice but useless without a story

Papers - Presentation

- Don't oversell - no embarrassing claims.
  - The reviewers are people who (will) know you
- Don't be too humble either
  - You want your paper to be accepted
- Don't prove trivial results in exhaustive detail
- Don't make it too dense
  - Reviewers dislike small fonts, thin margins
  - Short appendix is OK, only for important material
- Not too sparse either
- No passive tense. Use Active … "We .." who is We?

Papers - Presentation

- List your contributions
  - Don't expect the reader guess it
- Highlight the most impressive results
- Polish well
- Style, appearance, spelling, grammar
  - Reviewers don't like half-baked papers
  - They don't spend time on a paper with spelling errors
- Get feedback, listen them

Papers - Related Work

- A common critics by referees:
  - "compare with .."
- Give credit to others
  - who might be a reviewer
- Make sure you cover the important work in the area
- Don't just say .. Did this that… give insights, compare, classify…
- Keep the flow going well

Where to Publish

- **Aim provably top venues.**
  - Initially maybe not so good ones
  - but then improve quickly (you need quality)
- **Check the "impact factor"**
  - An objective criteria
  - Among candidate journals, choose the one with higher impact factor

Test: Same article published in different journals
  - After ~2 years, highest-impact journal received 100 times more citations than the lowest one

- **Fit with the journal**

Where to Publish

- **In some fields, conferences are important**
  - ❑ Even in that case, don't ignore journals
  - ❑ Journals may be easier – chance to respond/revise
- **You need 1-2 very high quality papers**
  - ❑ Identify your best bets and focus on them
  - ❑ You will produce some OK ones in the meantime
- **Some reviewers are rude**
  - ❑ Don't take it personal, that's just the way they are
  - ❑ Don't blame if they didn't understand. Make it clearer. If she did, probably someone else also will
- **Don't get discouraged if you get rejected**
  - ❑ This is how the system works

Grants

Funding: Resources

- Identify the right places to send a grant proposal
- Check where people got their grants
  - You can access grant information for your department
- A grant has
  - Principal Investigator, co-investigators, agency, money
- More valuable if PI, or significant co-PI

- Major resources: NSF, NIH

- NSF Career: BEST VALUE
  - Average study time: ~165 hours
  - Everyone works so hard, but you are competing with junior faculty like you

Funding: Resources

- **DOE, NASA, ONR, Army Office of Research**
  - Fit is important
  - Applied & development
  - Connections help for some cases
  - DOE ECPI, ONR Young Investigator, etc.

- **DARPA, DOD**
  - Tough for beginners, might have early career programs

- **State agencies (fit & connection)**
- **Special grants for minority, black, … Institutes**
- **Institutes, centers (look around)**
- **Companies (not much money, connection is everything)**

NSF

- Find the program for your community
  - Best fit, tough competition
  - Your Career proposal will likely go here

- Interdisciplinary programs (requires collaboration)
  - Career is possible
  - Multiple programs

- Special and emerging programs
  - May fit your research

- Get familiar with NSF website & fastlane

NSF

- Contact your program officer
  - with an impressive research agenda
  - they may help in border cases

- Get yourself invited to a proposal review panel
  - to introduce yourself & learn the system
  - Do a good job there!

A good proposal

- Focused
- Has a story (vision)
- Involves 1 to 3 applications
- Integrated
  - research & application; theory & practice
- Shows preliminary results
- Still has things to do (believable plan)
- Takes a lot of time to write
  - polished, has smooth flow

A good proposal

- **NSF wants an education plan**
  - Writing a good education section is simple
  - Read previous proposals, you will get better ideas
  - A good education plan won't earn you the grant, but a bad one will kill your chances
- **Diversity**

Try-try

It is an ART

Common Critics to Proposals

Vision vs. Focus

- "No ambition"   "Too ambitious"
- "Too narrow"   "Too broad"

                                                   "No integration between proposed tasks"

                                                   "Problems/goals are not clear"

Application

- Low impact potential, broader impact is not clear
- Boring area –revise it with a more appealing application (using the same technical material)
- No connection between theory and practice

Organization

- Not well-organized (not enough time spent)

Common Critics to Proposals

- No clear **Research Plan** (tasks are not clear)
- No timeline
- No preliminary results
- No evaluation plan
- No validation of results, no success measures
- No technical challenge
- Related projects not cited/understood
- How the proposed approach relates & advances the state-of-the-art
- Already done
- PI credential & publication in the area is weak
- No involvement of minorities
- No novelty in education plan (in NSF CAREER)
- No clear dissemination plans. Who/how will use your results?

Advise/Graduate Students

This is also part of your teaching.

Mentoring

- Find "very good" students as early as possible
  - Be proactive. Don't wait students come to you
  - Make sure he/she is really good
  - Aim for PhD by the end of the 5th year.
- The roles of an advisor include:
  - Provide guidance, but also give freedom
  - Help your students to be part of research community
  - Find financial support
  - Help your students even after graduation
- Mentor other PhD students, have them pass candidacy, graduate MS students, etc.

Advice to Advisor

- Relate the grad students as individuals
- Not as anonymous research assistants or tickets to tenure
- Work with all and value their efforts
- Know your students personally and professionally
- Don't forget, you were a grad student once upon a time!

So
don't rely on students
or expect too much

Interacting With Students

- We all have different styles
- Regular meetings and informal meetings
- Long-term and short-term goals
- Win-win situation
  - Topics you both are interested in
- Give constructive feedback
- Gender differences
  - Process-oriented vs Goal-oriented
  - Men are from Mars, Women are from Venus by John Gray

Collaborations

Collaborations

- **Work with people**
  - Complementing each other
  - Don't change your area too much

- **Work with hard working people with funding success**
  - Avoid lazy ones with no prior funding

- **If something sounds promising**
  - Work hard to fully develop it, and present a fully thought story

- **If something doesn't sound promising**
  - It probably isn't, don't jump on all the collaboration possibilities

- **Don't jump to a completely new area**
  - Start new things only if you can reuse some of your old materials where you have some credibility

Collaborations

- Don't be over-protective of your work
  - Telling your soon-to-be-published ideas may be good for networking
  - Prefer your published work, if strong enough
- Interdisciplinary research can be rewarding
  - if you know what you are doing, or if you know how to sell it
  - otherwise, it is time-consuming and doesn't attract too much attention from your peers
  - Do it if you think you can bring money.
  - A hot field does not necessarily bring you money. It is hot for everyone.

Informal Mentor

- Find a mentor that you can talk
- A good mentor
  - Positive-minded
  - Helpful
  - Has high opinion on your research
- Don't ruin his/her opinion on your research
- Be professional, natural, don't go over-board (not "too too" close)

Recommendation Letters

How your community sees you?

- **Letters are extremely important**
  - You need good letter writers: Plan ahead!
- **You will provide 6-8 names, your department will come up with 6-8 names** (references from your papers)
- **Prepare a list of 10 candidate names now**
  - in your area
  - know your work and/or you or your previous advisor
  - comparable or better universities
- **Networking networking**

Networking

- **Know Candidates for Letter Writers**
  - Read their papers, web pages, attend their talks, ask questions during/after talk, request information
- **Make yourself known**
  - Do good research, give good talks, publish in good places, prepare up-to-date web pages, send e-mails
- **Interact with people and their contacts**
  - It's OK to talk about your research/yourself: This is how it works!
  - Don't be too pushy but don't be shy either
- **Be ready for "So what are you working on?"**

Networking (cont'd)

- Exchange manuscripts white papers (if natural)
- In 4th & 5th year, attend more conferences
  - Tenure evaluation starts end of 5th year
- Meet & discuss in a conference
- Follow-up by sending emails
- Invite them to your school
  - Distinguished speaker talks
- Provide services to your community
  - Review papers, volunteer for conf.

Teaching

Classroom Teaching

- **Student teaching evaluation scores**
  - Important, the only solid criteria
  - If you get bad scores, seek help
  - Must improve over time
  - Above average is fine
- **Two independent faculty evaluation**
- **Curriculum development**
  - Find simple/effective ways to extend the curriculum
  - Don't over-spend your time
    - Focus on improving teaching evaluations on the same set of courses
    - Offer a few different courses, special topic courses
- **Read a book on how to teach**

Advise/mentor students

- Discussed in research part
- Publications with students is important
- Offer independent studies
- Organize weekly seminars

Service

Internal Service

- **You will be a member in various committees**
  - Not much work
  - If you do what you are asked to do, you are fine
- **Attend all your committee meetings**
  - On time, responsible
- **Be proactive in something (not all things)**
- **Faculty meetings**
  - Don't jump on every issue
  - Learn the culture in your dept

External service

- Do what will benefit you most (for getting letters!)
- Be committee member or reviewer in top conferences, journals, NSF Proposal review panels
  - Credibility
  - Visibility
  - Experience and knowledge
  - Good contact/reference list
- Community service is valued
  - K-12 education
  - Social services

Time to submit your tenure case

What to submit?

- **You will need many things**
  - ❑ Recomm letters, Resume, papers, proposals, reviews, letters from students, class notes, exams, student evaluations, projects, letters from Editors, Prog. Mng. etc. …
  - ❑ So keep them organized (possibly online)
- **You will write a self-evaluation or summary**
  - ❑ defend your case by emphasizing your achievements
  - ❑ explain how you addressed concerns in 3rd year evaluation or early failures in teaching etc.
  - ❑ State your plans for future

How do they evaluate?

- How do you accept or reject a paper?
- Look at it **overall,** then justify your decision!
- Most cases are in a grey area, so
    - They look at the overall case and other factors
    - Then they see how they want to see
    - Be careful when you include or say something
    - If they want, they can use it against or for you
- Your department (evaluators) are not monsters
    - They want you to get tenure
    - They hired you, your success is theirs
    - So help them

General Advices

General Advices

- Focused studying
  - To develop a good idea, you don't need much time, you need quality time
  - Too many distractions → non-productivity
- Don't overload yourself with unnecessary work
  - Prioritize, it's easy to postpone (and never do) research
- Ignore email, no surfing
- Read papers + form paper reading groups/seminars
  - It's how you usually come up with ideas
  - You will learn the common style

General Advices

- Always have a bigger vision
- Don't depend too much on others
  - Advisor, collaborators, students..
- Do a good job on your own
  - Leadership
- Enjoy what you do
  - Don't do what you don't enjoy
  - Good for motivation/productivity – no well-defined tasks

General Advices

- Document everything that is important to you
  - Paper reviews
  - Community/public service
  - Advising and other voluntary work
- Communicate in written form or in e-mail for all your important issues and keep your e-mails

General Advices

- ## Have a healthy personal & social life!
  - Read other books

- ## No stress. Please.
  - This is supposed to be an enjoyable job.

- ## Know your priorities
  - Learn how to say 'NO!'

- ## Don't overwork, don't overload yourself
  - 5 years of normal work should suffice for tenure
  - Workaholic

- ## Plus
  - Getting tenure is not everything

Final Words

- These were just some informal ideas that might help you better shape your thoughts
  - What works for someone may not work for you
- We all learn by personal experience
- Follow your instincts, common-sense
  - No advice is better than them