A Survey of Mistakes
(Mostly Mine :)

Romit Roy Choudhury
I am very qualified to give this talk because
I have made almost all the mistakes
there is to be made

By Frits Ahlefeldt
But there’s one thing I did very well:
I myself caught many of my own mistakes
Today’s talk:

→ sharing these mistakes with you
→ and my take-away lessons from them
Today’s talk:

→ sharing these mistakes with you
→ and my take-away lessons from them

Bigger picture first … and then the nuts and bolts
Scared
Insecure
Don’t belong here
Oh, no …
Started networking, collaborating, traveling, talking ...
No need to network now ...  
- Lock yourself and immerse for first N years*  
- Don’t dilute by running around  
- Focus, brainstorm, establish your identity  
- No point being visible by being around  
- Lot of time left in later life to collaborate ...  

* This does not mean don’t talk to people ... don’t talk to them for the sake of social networking ... remain technical, serious, focussed
Easy to become a manager...
Started managing too many things ... funding, recruit, committees, teaching, space, purchase, ...

I was learning, maturing at tremendous pace ... but I didn't have time to get deep ... started delegating ... and it did not hurt productivity
Keep an eye on self-growth

- Do things that hurt your head
- Avoid becoming “high level”
- Students will appreciate

Harder to learn math later

- Learn them now, take courses
Success starts coming in ...

Easy to converge to a local maxima
Success will come ... and many bells and whistles (papers, funding, PC invites, talks, industry summits, prizes, etc.)
Important to be brutal to yourself
• Is my research really strong?
• Or are there other reasons I am making the cut?
• Strong research correlates with acceptance rates but ...

It’s OK if it’s not strong ...
It’s not OK to not know that.
Get Out of Echo Chambers

- Hangout with people from other areas (theory)
- With people who challenge you more
Do I want to run the Rat Race
Publishing may feel like a “game” or “rat race” or “treadmill” ...

- Run the race for a few years ... and then you can choose to get out.
- Don’t criticise without running the race.
- There is much to be learnt ...

Tenure will bring the best out of you ...
Easy to burn out.

Celebrate,

travel,

decompress
Family/kids will reduce bandwidth
• Make full use of your time and freedom ...
• You will have less control on life later
To summarize this high level part ...
Don’t treat tenure as the end of the tunnel ...
View tenure as a great training program

- A long research career lies ahead
- Prepare well for the next (best) part
- Learn algorithms, math, read widely ...
- Yes, balancing all will be hard
- But it will bring the best out of you ...
Some Nuts and Bolts
Research Taste

- You don’t have to be a great painter ...
  - but you should be able to tell a Picasso when you see one.
  
  - Not sure how to develop taste ...
  - I guess one way is to constantly contrast the best papers with the bad ones ...
  - Train your brain with many data points from both classes ...
    - I think you will develop the classifier.

- Then, keep generating ideas and feed to your classifier
  - Stop when you really like it
  - Start working ...
Properties of a Good (Systems) Idea

- Can be stated cleanly ... crisply
- Can be abstracted into a (more general) puzzle
- The result applicable to various other contexts (beyond this paper)
- The pain point (or opportunity) is clear ...
- Don’t need to see results to understand why it will work
- Authors not afraid to tell you what they are working on ...
Paper sized Ideas

- Difficult to get thesis-sized ideas ...
  - Unless you are opening a new sub-area

- Its OK ... work on exciting ideas, even if scattered
  - You can dedicate your life to one cause later in the career
  - This is also easier to publish ... good for tenure
Writing Well is Crucial

- Attended a semester long writing course as faculty
  - One of the best decisions

- Look up YouTube videos from Prof. Gopen (Duke University)
  - Specifically, “Writing from the reader’s perspective”
Funding

- Get the research right ... the funding will come
  - Don't get this wrong (i.e., get the funding to start the research)

- Someone told me “leave no stone un-turned”
  - Bad advice in my opinion
  - Write few proposals ... and write them with passion

- Join teams with care
  - Many teams forming ... Many people need “few pages of text” for proposal
  - Not hard to join co-PI teams
  - Resist temptation ... join if you are really excited about the vision / team.
  - Form deep collaborations once you form them
Time Management

- Write not-to-do lists
  - Remind yourself of 80-20 rule ...
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  - I have benefitted from keeping meetings between 2-5pm
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  - Check emails less often ... No one will give you the Turing Award for responding fast
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  - Project reports, recommendation letters, slides ...
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- Travel sucks up a lot of time
  - Pick your travels with care
Recruiting Students

- Don’t have anything unconventional to say ...
  - Very hard ... Time consuming
  - But don’t look only at students in your area ...
  - There’s much to learn from students
Skepticism is useful
- Am I doing really great research?
- Strong research is correlated to acceptance ... but not causal

Give love and kindness to students ... empathize ... have E.Q.
- They will give you back much more

Have a lot of fun ... enjoy what you are doing
- If you have to force yourself to enjoy, you are in the wrong place
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I can say with zero hesitation that **tenure were the best years** of my life ... and becoming a faculty, the **best decision** I have made ...
Questions