Kalueff Lab Rules

2009

Welcome!

If you read these lines, this means you joined Kalueff Lab. What a misfortune!

Here are some important rules that this lab adopted. These rules were written mostly by current and former lab members, with my minimal participation. In fact, I find these rules quite tough. AND some of them are a clear exaggeration. However, living according to these rules really helps the lab run smoothly.

Illustrations are mostly inappropriate, irrelevant, excessive, and taken from www.phdcomics.com (some of them are quite good though). Also, do not be intimidated by 30+ pages of these rules – if your remove all cartoons, and reduce the font, it is not that bad.

However, we will keep updating these rules, and you may soon be invited to contribute your thoughts too.

Once again, welcome to our lab!

Best wishes,

Allan V Kalueff, PhD

The Rules

General (pretty much about everything, in no particular order)

1. Be proactive.
2. Keep a running inventory of important resources (reagents for each procedure, samples, experimental animals).
3. Foster good relationships with other departmental members and potential collaborators, mentors, etc...
4. Maintain a balance of philosophical and practical scientific mindsets
5. Ensure your necessary basic needs are planned for:
    - Get enough sleep (see figure below). Try to get quality (not quantity) sleep
    - Eat well
    - Exercise (for stress relief and to sharpen your mind)

6. Take personal responsibility for your scientific development.
7. Right, right, right, right, right...
8. "Live from the 500 and 4".
9. Maintain scientific integrity in all actions.
10. Have fun.
11. Expect long hours, if the experiment requires (see figure below). This lab is not for “9-17” people.

12. Be punctual.
13. Maintain a good sense of humor. You will need it HERE. Also, as Jay Leno said, “You can't stay mad at someone who makes you laugh”.
14. Develop effective and healthy stress-relief habits.
15. Perpetuate the concept of "happy people". Most likely you do not know this concept – ask Dr. Kalueff about it.
16. Remember, you do not work for your PI – you work for your CV.
17. Maintain reasonable order in your office and your working area (see figure below).

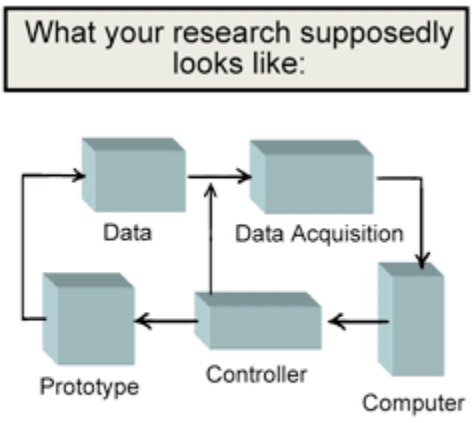


Figure 1. Experimental Diagram

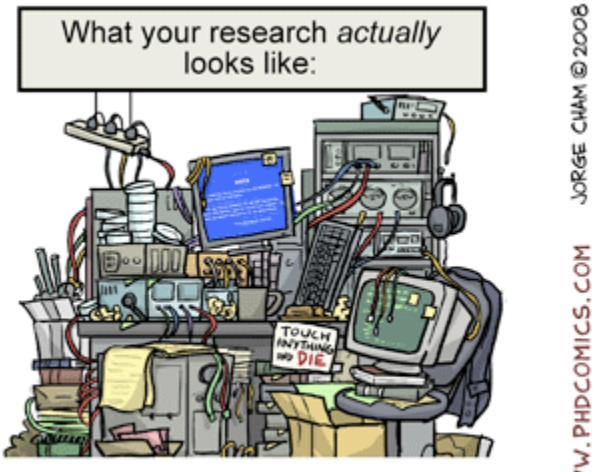
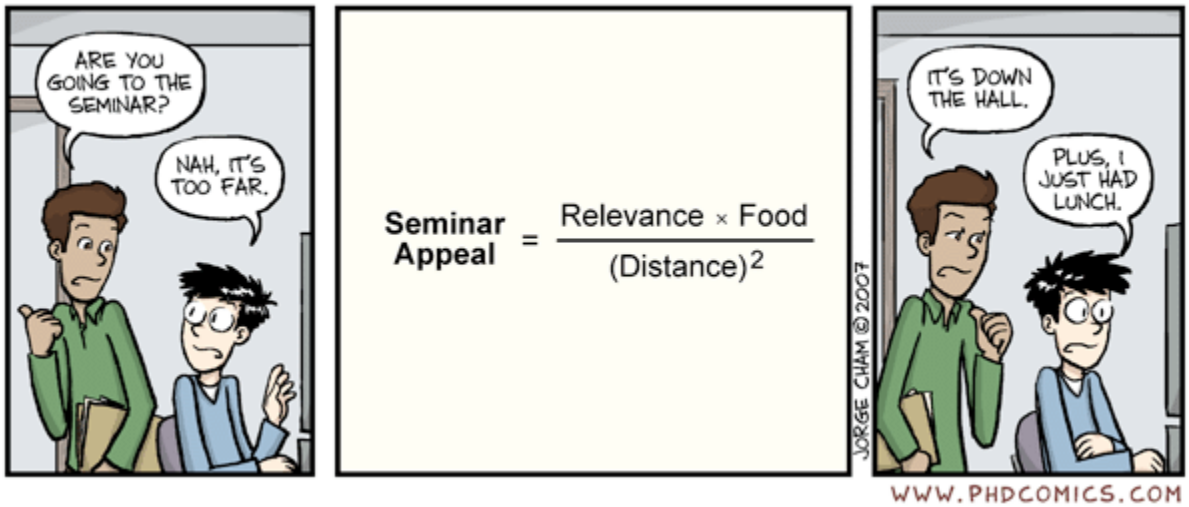


Figure 2. Experimental Mess

18. Ask for a lunch break, or you may not get one.
19. Bring nutritious snacks to work to tide you over between meals.
20. Laboratories must be properly illuminated, no German bunkers.
21. Your productivity depends only on how much you are interested in the subject. If you are not interested in brain and brain disorders – do not waste your time.
22. Shoot for the stars. It may be hard though.
23. Many times, you will hear: “Switch the car engine, and drive” (variations: “Get in the airplane and fly”). This is an interesting concept in relation to running an unknown protocol – ask Dr. Kalueff about it.
24. Do not be lazy. This lab does not like lazy people (and it is mutual).
25. Laziness of mind is even more appalling.
26. Nothing annoys the PI more than Internet surfing at the expense of work. Do not even think you can switch the screens fast enough, so the boss will not see.
27. Educate yourself. Attend interesting seminars (see below) – after all, there may be some good food there.



28. Have a career in science first, then consider running for a political office. Whatever you do, your accomplishments/CV will stay with you forever.
29. "Don't screw it up, dude"
30. Outside of the lab, be prepared to take (and retake) the GRE.
31. Social domain is important. There is life outside the lab. Enjoy it.

32. Do not be socially shy – suggest extracurricular activities for the lab. Be fun.
33. Avoid boring people! (see the last book by Jim Watson, with the same title).
34. Every day, think of how you can improve your CV.
35. Be flexible, a rigid mind is not productive enough.
36. Scientific research is like a military operation: As Gen. Norman Schwarzkopf said, there's more than one way to look at a problem, and they may all be right.
37. Like your research… if you can.

38. Always be positive. Always.
39. There is no such thing as a half-empty tube with homogenate. It is always half-full!
40. No sad eyes in the Lab!
41. We try to maintain a positive and colleagiate environment, so don't be a downer; refer to the previous rule.
42. This lab is NOT for people with anger management problems.
43. Try to challenge the system before it is too late. Otherwise, ask Dr Kalueff about “Run, run, little elephant, run!” story.

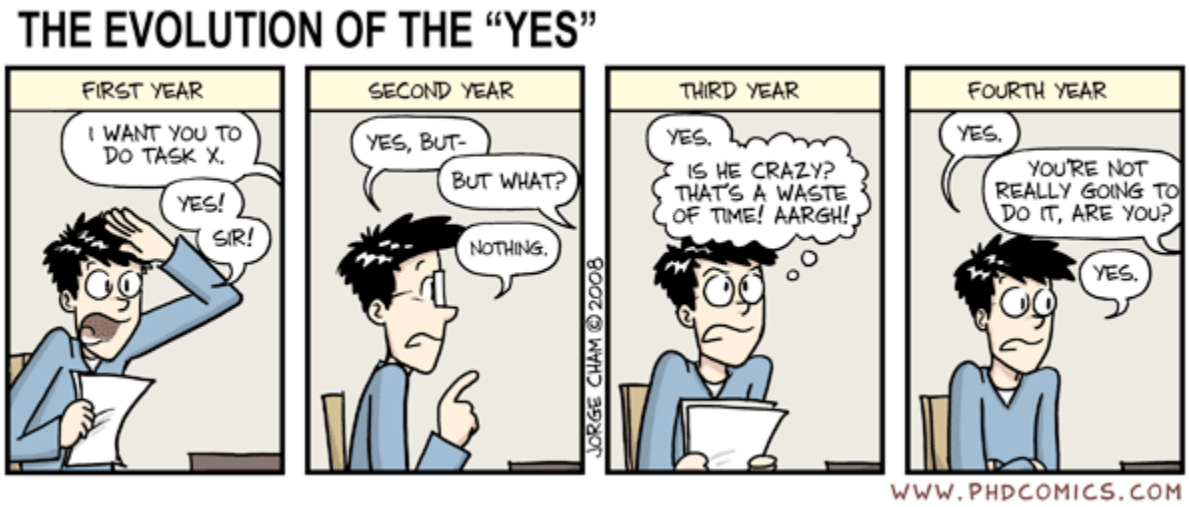
A few philosophical notes

1. Tomorrow is NOW!
2. Always keep trying. If you never try, you never lose. If you never lose, you never learn. And by learning we win.
3. Never think why this or that is impossible. Ask yourself: How can I do this?
4. Rephrasing JFK, ask not yourself what this lab can do for you. Ask yourself what you can do for your CV.
5. "If you think you can, you can. If you think you can't, you are right" (Mary Kay Ash).
6. In a battle between Plato and Aristotle, in THIS lab Plato always wins.
7. Check up Plato's allegory of the cave, and use it in your research.
8. We can never be perfect. This lab does not embrace slow perfectionists.
9. Avoid mediocre people.
10. No *hetero-grooming* and *barbering* phenotypes in this lab (ask the PI about this).
11. Stay young! "Age is a question of mind over matter. If you don't mind, it doesn't matter". – Satchel Page.
12. Do not be discouraged by repeated failures. Only 1 out of 10 things in Science works. Remember, as William Brown said, failure is an event, never a person.
13. Scientists are too over-trained, and too under-paid.
14. Any generalization in Science is wrong, including this one.
15. Isn't it an irony? When you are a student, you rely on your Professors. When you are a Professor, you rely on your students. And only Assistant Professors rely on themselves…
16. There is a big difference between hubris[1] and hubris[2].

[1] [Huh-bris] – a good, positive hubris.
[2] [Hju-bris] – well, we all know what hubris is…

General attitudes to work and research

1. A positive attitude is the ultimate advantage.
2. Hard work is absolutely important for a scientist.
3. Enthusiasm is absolutely important for hard work (see above, also see figure below).



4. By the way, most students generally spend 1-2 years in this lab.
5. "Lead by example" (Zofia Zukowska)
6. Any task that would typically require a large village working for several weeks to finish it, must be completed by noon.[3]
7. To elaborate on previous comment: There may be much asked of you. Just do the best you can, and even if you haven't finished dissections, RNA isolation, DNA purification, nanospectro-photometry, PCR, DNA digestion, RT-PCR, QT-PCR, ELISA, written 2 chapters, reviewed 5 manuscripts, fed all the animals, weaned and eartagged 30 mice, performed TST, FST, and OFT on 4 cohorts of mice (before doing NTDT on 2 cohorts of zebrafish), and the data and statistical analysis for every experiment performed in the last two weeks before taking late lunch, then you will only get a minor scolding. [4]

[3] Dr. Kalueff strongly disagrees with this statement. Everything is not THAT bad. However, he managed to promise no censoring… so here we go...

[4] Dr. Kalueff again strongly disagrees with this statement. Democracy… Where the world goes?

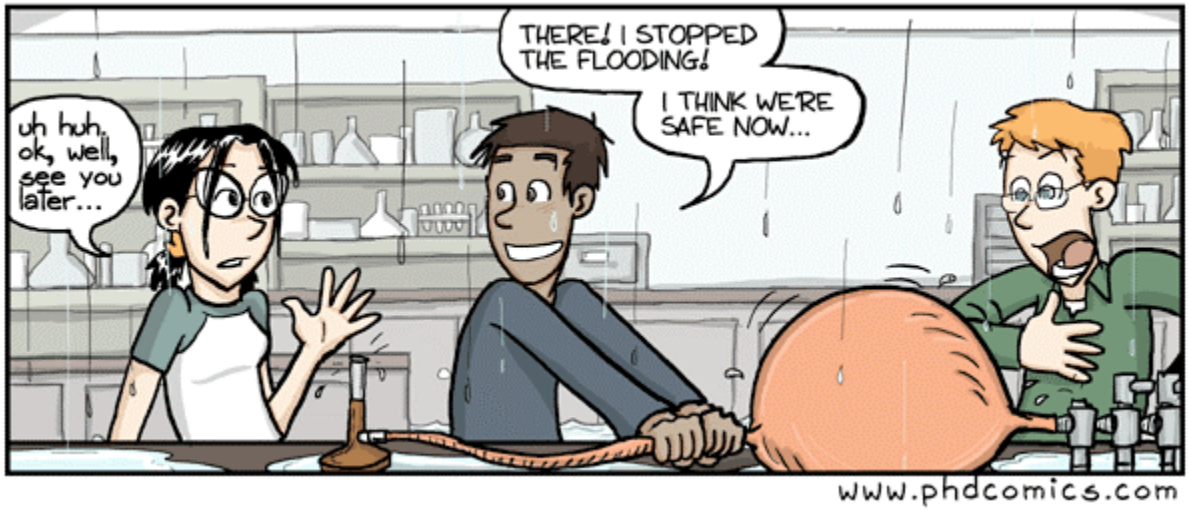
8. When told to use a zebrafish bucket, use a bucket.
9. Your PI cannot know *everything*; familiarize yourself with institution regulations.
10. Do not ask your PI about taxes, bureaucrats and some other things (see figure below for details).

11. There is no use crying over spilled cDNA, or dead mice. Put it simply: do not do it again.
12. Incorporate your passions into your experiments.
13. The best way to learn is to teach someone else (Plato); don't fear research or writing a manuscript on unfamiliar topics.
14. Confounds are the bane of reliable data. Try to minimize them the best you can, and never be one yourself.
15. Don't form emotional attachments to research subjects, such as individual mice or zebrafish, to avoid nervous breakdowns when they eventually die.
16. Keep a log of procedures; you will forget them in a week.
17. If the lab is on fire: inform the PI and colleagues, and run very fast.
18. Serendipity is often a successful strategy in science. Ask Peter or PI for details.
19. Serendipidity (serendipity + stupidity; the term coined by Prof. Zofia Zukowska) is another excellent strategy for research.
20. Research based on “fishing expeditions” usually leads to great discoveries. It just takes awhile.

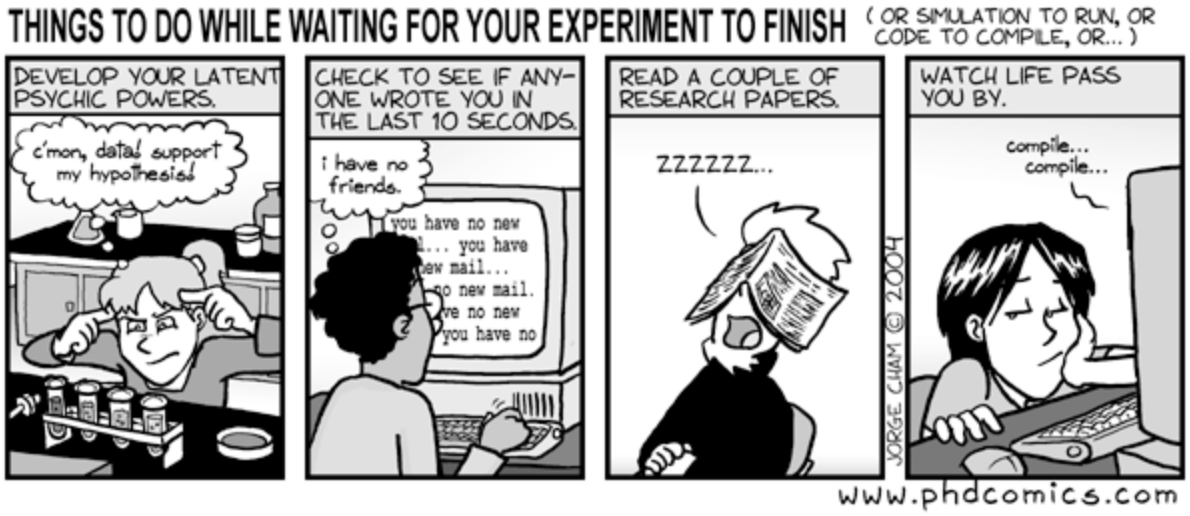
21. Nothing is impossible in science, except for missing deadlines (see a section on deadlines further).
22. If you're sick, and stay home, remember that cytokines are good for memory, so use this time to analyze data and think of science.
23. There is a fine line between pride and hubris.
24. Avoid “post-bachelor disorder”.

25. Nothing upsets your PI more than a day when his students have more free time than he does. It is inhumane, and should be avoided!
26. Be extra careful if you use another lab's equipment (with their permission, of course).
27. Always be sure to turn off equipment (centrifuge, incubator, water bath, etc.) after you finish the protocol.
28. Always, always, ALWAYS replenish reagents after using them, and order more if we run out of stock.
29. If something can't wait until tomorrow, just do it now.
30. If something can wait until tomorrow, refer to the previous comment.
31. Clean up and leave the lab bench the way you found it; or preferably, a bit cleaner.
32. Never give up, and never surrender. Perseverative behavior is only appropriate in terms of repeatedly running experiments, like finding effective dosage of a drug.
33. Keep a good balance of seriousness and professional goofiness, and academia (and this lab) will embrace you.

34. Trouble-shoot, if you can. Be creative (see example below).



35. On a relevant note: Why the number of PI's gray hairs positively correlates with the number of experiments performed in his lab?
36. One experiment is not an experiment.
37. "Keep high aspirations, moderate expectations and small needs". (H. Stein).
38. If you are inconsistent, at least be consistent in your inconsistency.
39. If you work hard, and contribute much to the lab, here is what can happen: you may stay in the lab FOREVER. How? Say, your name is John. When you leave, your PI will do exactly what they do with Dalai-lamas. He will travel to Indian mountains, find a little boy, call him John, and bring to the lab. He will be your reincarnation.
40. The lab relies on its alumni basis. Simply put: when you become rich and famous, donate generously to the lab's research! We can name a micropipette, a PCR machine, or a photocopier after you.
41. Sorry, we cannot do this to small eppendorfs. Think big.
42. Be a gentleman (or a lady) at work – always, even if it is d… hard!
43. Look for zeigheist.
44. Use your experimental time with reason (do NOT see the figure below).



45. Call your mom!

Scientific Writing

1. Good writing skills are absolutely vital for you in this lab. It is your ability to conceptualize and rationalize scientific stuff.
2. Writing is a process which should continuously be refined.... unless there is a **deadline** (see the definition further).
3. It takes practice to write fabulous scientific manuscripts, and a sticky note reading "It is shaping up" should be taken as a compliment.
4. The first draft is never perfect (see figure).

5. A good paper is as good as a chicken soup.
6. Always cite references if you are using someone's ideas.
7. Avoid repeating the same words twice in one sentence – this is disgusting.
8. In relation to the previous point, if you have a spare second, ask Dr. Kalueff about Georges-Louis Leclerc, Comte de Buffon.
9. Make sure the text flows nicely, without zigzagging.
10. Make all corrections to text as requested, even if you think a word doesn't exist (e.g. apparati).
11. Too long sentences are actually a torture, and torture is illegal in this country.
12. DO NOT use excessive abbreviations.
13. Always use the right words (see figure below).

14. Avoid redundancy. Repetitive thinking is a big NO in science.
15. The same applies to your scientific writing.
16. Your PI is on Editorial Boards of several journals. Lousy papers do not go there.
17. Tips on how to decode the PI's comments on specific parts of your manuscript:

    - “Please beef up section A” means that much more work is needed on this section. Increase it twice or thrice.
    - “Downplay section A" means that cutting back is needed. Say, cut back 30% and see what happens.
    - “More cow please” is Dr Kalueff’s way of saying “Beef it up” (see above).
    - “Mormonic writing” – too complex to understand or to follow.
    - “Add more Plato” (also: “Plato it a bit more”, or “Increase Plato”) – make the text more academic.

18. Tips on how to decode the PI's comments on the status of your manuscript:

    - “Shaping up” means "Did you do anything at all?"
    - “Coming along” means "Shaping up"
    - “Looks good” means "Coming along"
    - “Very good” means "Okay... for now."
    - “Excellent” means "Not bad!"

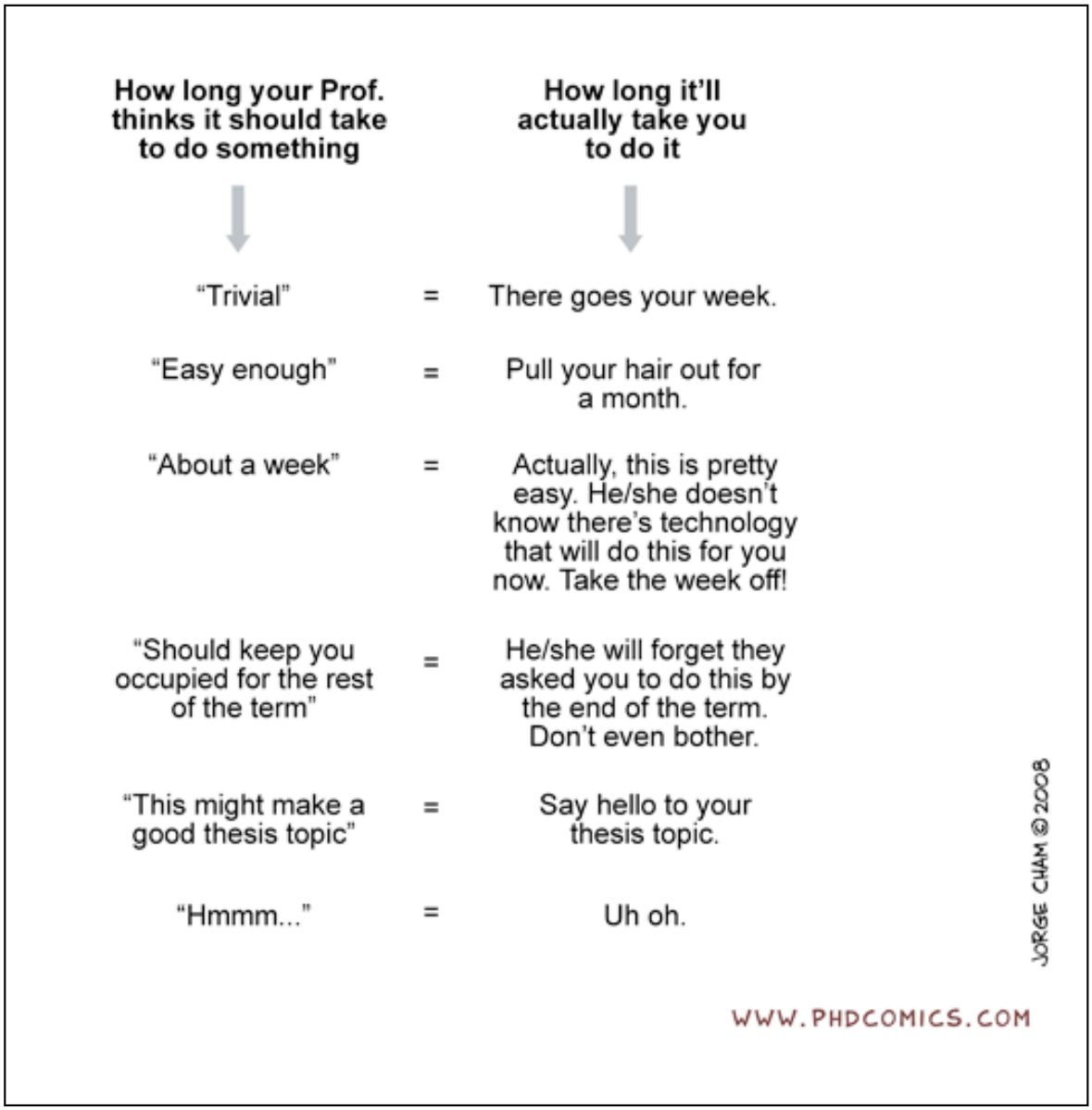
- “Perfect” means "Almost ready, but major revisions are needed"
- “Ready” or “Done” means "Done” or “Ready".
- “Wow!” – do not worry about decoding this; most likely you will never hear that anyway from THIS PI.
- “Oh no!” – well, to put it nicely… the MS is not ready.

Deadlines

[Ded-lain] - a date or time before which something must be done; the time after which copy is not accepted for a particular issue of a publication (Merriam-Webster Dictionary)

1. These are common phenomena in this lab.
2. Deadlines can be: grant deadlines, paper submission deadlines, strange deadlines, tight deadlines, and missed deadlines (see figure).

3. If you think you can be missing the deadline, talk to the PI and let him know well in advance. However…
4. … your talents have full confidence of your PI. You CAN make it.
5. Absolutely follow the deadlines, even if you believe they are unrealistic (see figure below). As Teddy Roosevelt used to say, this world lacks people specializing in impossible.


How long your Prof. thinks it should take to do something
How long it'll actually take you to do it
"Trivial" = There goes your week.
"Easy enough" = Pull your hair out for a month.
"About a week" = Actually, this is pretty easy. He/she doesn't know there's technology that will do this for you now. Take the week off!
"Should keep you occupied for the rest of the term" = He/she will forget they asked you to do this by the end of the term. Don't even bother.
"This might make a good thesis topic" = Say hello to your thesis topic.
"Hmmm..." = Uh oh.
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Grant-writing

1. This is a sacred time for the PI, as grants feed the lab, the PI and his big family.
2. Make sure you assist this process in every possible manner. Your help may be needed (see figure below).

3. Remember, a happy scientist is a productive scientist - so don't upset the PI early in the day, especially when he's writing grants!
4. Sometimes urgent data or reports are needed for the grants (see figure).

Communicating with PI and other colleagues

1. Cherish your lab-mates; they will soon become your best friends.
2. Know your PI well (see the quiz below), try to improve your scores.

How Well Do You Know Your Advisor?
Take the quiz!

1. Where did your advisor go for undergrad? (1 pt.)
2. Where is your advisor's home town? (1 pt.)
3. Who was your advisor's advisor (your grandadvisor)? (1 pt.)
4. How many siblings does he/she have, and what are their professions? (1 pt.)
5. What is your advisor's middle name? (1 pt.)

Your Score:

- 4-5 - You know WAY too much about your Advisor.
- 2-3 - You Google-stalked him, didn't you?
- 0-1 - You have a normal relationship with your Advisor.

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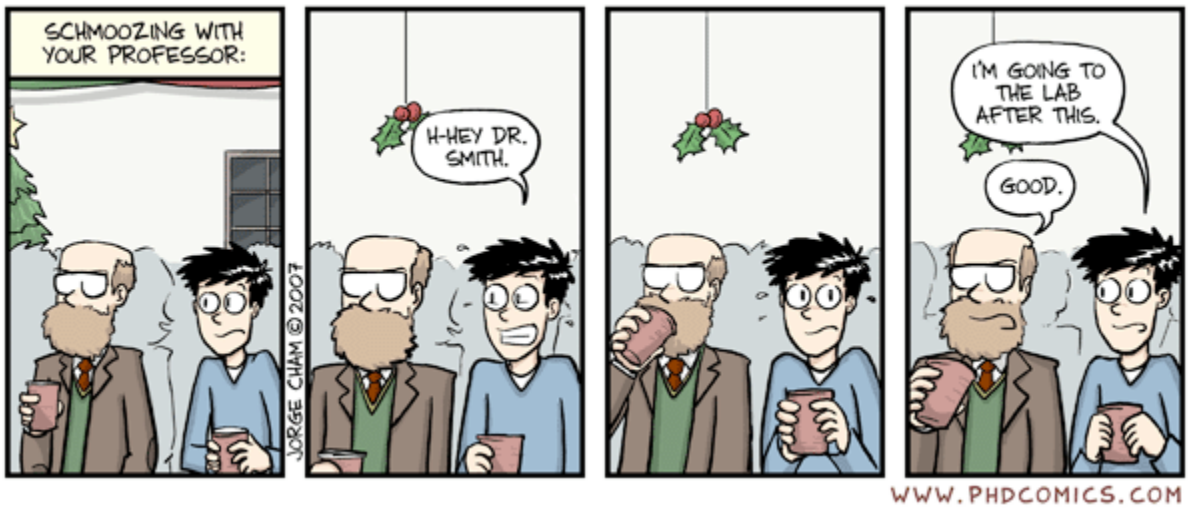
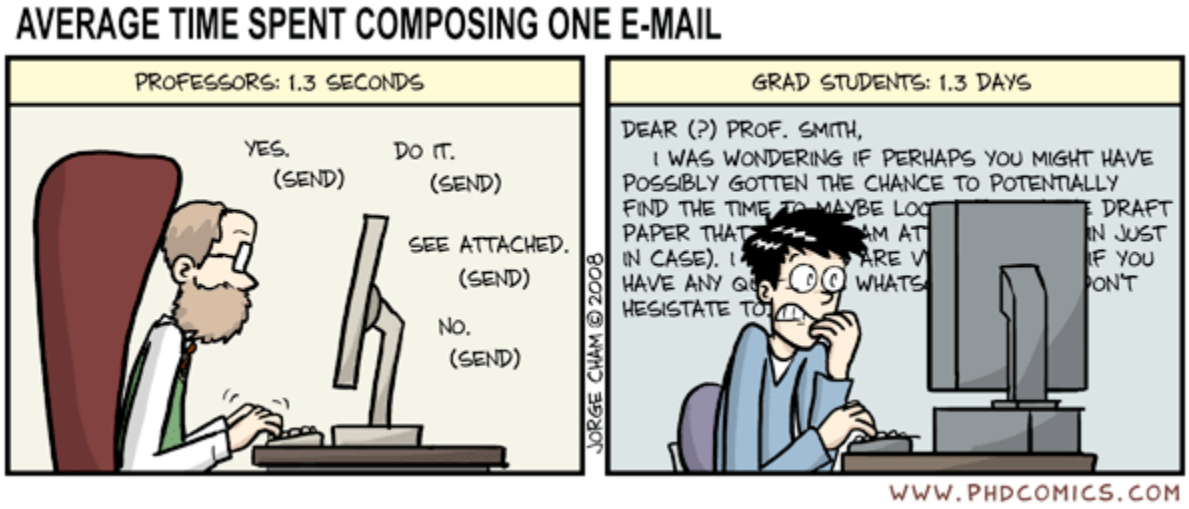
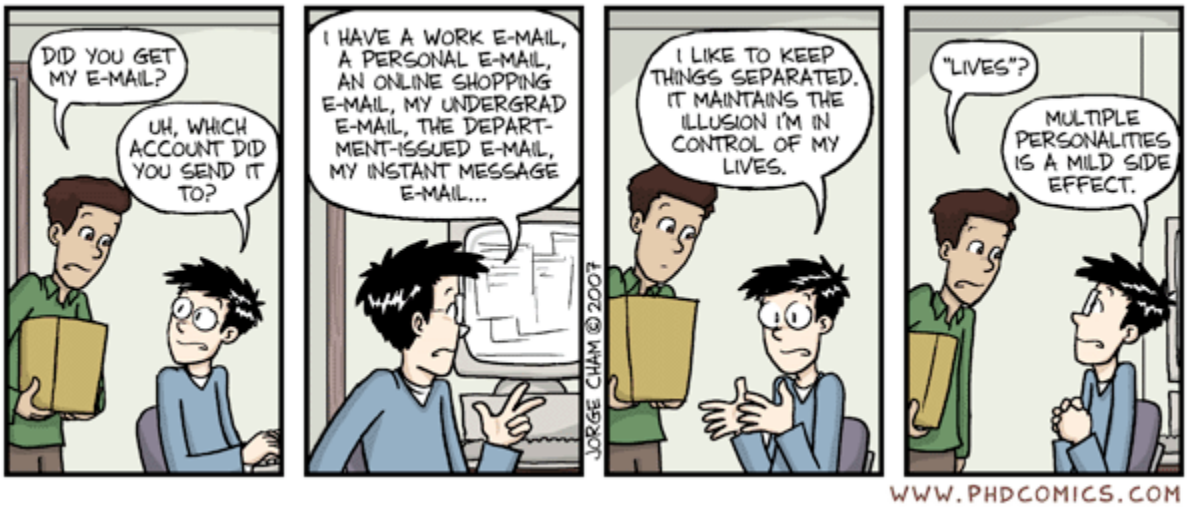
3. "Dr Kalueff" is the best way to call your PI (he does not like "Dr K", "AVK", or other permutations).
4. Maintain good communication with your PI and fellow lab members.
5. Use schmoozing, if necessary (see example below).



6. Email is an important tool to exchange valuable information and establish new social links.
7. Use it!
8. Be polite in emailing to other colleagues (see figure below).

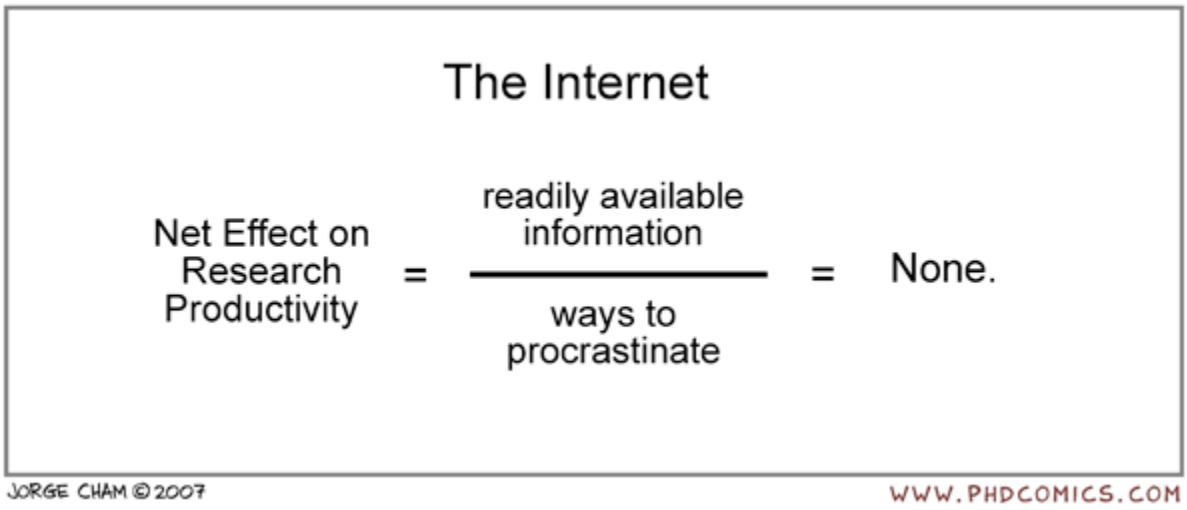


9. Use only one email account for all lab matters (see figure below) to avoid multiple Personality Disorder.



10. Always keep everyone [from your lab] in the loop. This lab hates secretive science.

11. Minimize Internet usage, it has little effect on research productivity (see figure below). Think. Study. Think.



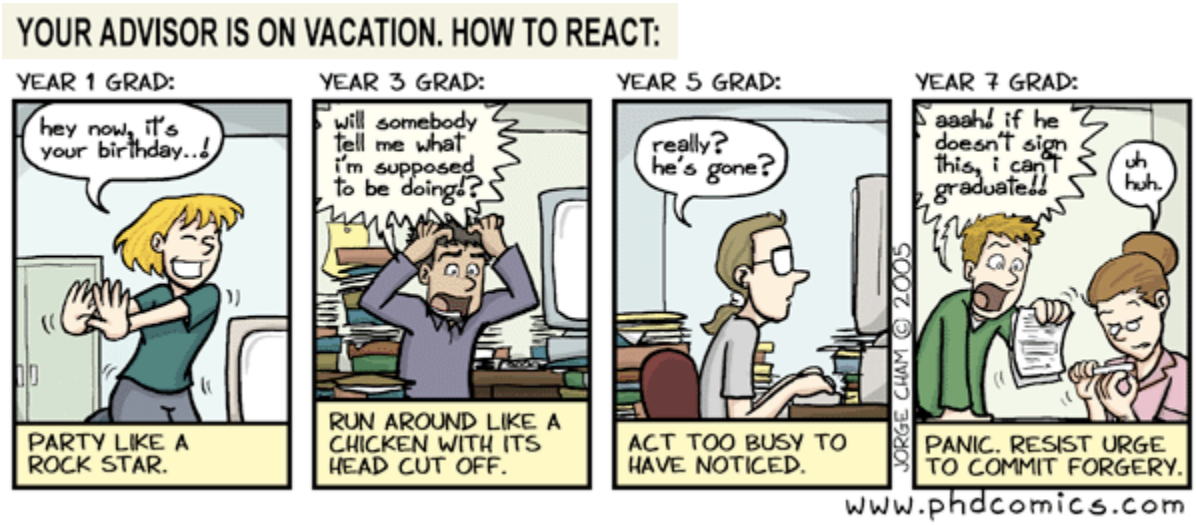
12. Try to bring good news. Your PI starts his day with reading e-mails.
13. Please check your email compulsively – your lab likes your fast replies.
14. Keep a collegial respect for yourself and others you encounter.
15. Get to know your fellow labmates (and also folks from other labs around).
16. A pink spot on the PI's white shirt is not a red wine. Most likely, it is a rose wine. In any case, please focus on your experiments.
17. Foster good relationships with other departmental members and potential collaborators, mentors, etc.
18. If communicating with scientists that you do not know personally, please use very “fluffy” style (ask Carisa what “fluffy” means).
19. Since your business emails represent the lab, make sure your PI knows about your plans. Get a draft of your email (on lab or science business) to your PI first.
20. Be aware that in a rush, the PI usually makes a lot of typos in emails - so next taime you seae something like "everythis" - you know that it is, in fact, "everything". Do not be discouraged if you cannot understand everythis in his messadg.
21. Know the balance of powers in the Department (see explanations below). Be nice.

22. If you think your research plan is better than PI's, present it once in a clear and straightforward manner: you will be heard.
23. If the plan remains unaltered, just stay with it.
24. If you want to complain about another lab member, do it openly, during the lab meetings (see further for details).
25. Don't be afraid to challenge your PI, but always BE RESPECTFUL.
26. It will be safer, though, if you do "challenging" in private.
27. If you are a mean person, pretend that you are a nice person: this lab does not like mean people.
28. Bring a small voodoo doll, if that helps.
29. As a rule of thumb, maintain a network of positive collegial interactions. In other words, "Complete the circle" (ask the PI to elaborate on this topic – may consume a few working hours).

Handling the assignments

1. Usually, all daily assignments are sent to all lab members by email before the day starts.
2. Please follow the plan, since you will be coordinating your activities with other members of the lab.
3. Use a few tricks to look busy (see below) but remember that we all know them well, and use time to time ourselves.

4. Things do to first will have “Urgent” marks.
5. Things to deal with, if a specific deadline is given, are to be completed by this deadline.
6. If there is no deadline given, this means you have to deal with this assignment today (i.e., to be completed by the end of the day).
7. If the assignment has a comment like “do in when you can”, please deal with this task in a few days, usually within 3 days).
8. We are a very productive lab, so please contribute to its success. We do not welcome delayed leftovers.
9. If your PI is on vacation, please react with wisdom.



10. Please note, however, that he does not like vacations, and did not take one in years ☹
11. However, he does go to conferences ☺
12. So just send his way any detailed information on all relevant conferences, and you will most certainly have more fun in the lab.

Updates

1. This is important, and not a joke; please read carefully. Updates are an essential aspect of this lab. They help planning and reshaping our research.
2. If you work in the lab full time, update the PI each morning and evening on your plans and progress (see typical examples below).
3. Updates are expected at 9.00 in the morning, and at the end of the day, before your leave.
4. If you work part time, update the PI each evening, before you leave.
5. Keep these updates as informative as possible.
6. List all your discoveries in the evening updates (but do not forget to mention all your failures too).

Example 1: Morning update

Aims of the morning updates: for you to confirm the PI that all experiments are clear. Also, this is an opportunity for you to ask questions if in doubts.

> *Hi Dr Kalueff,*
>
> *So I will get on RNA ASAP; homogenizing will probably take me to lunch, then I will continue the rest and hopefully have some time to finish these other peer reviews, as well as John's chapter. Jason won't be able to proceed with ELISA today, as the ether hasn't fully evaporated yet. I spoke with Dr. Smith yesterday, and we will be fine to leave it under the hood until it is fully evaporated – since we won't have time tomorrow [dept.retreat], and Friday [visit to University of Maryland], the samples will be fine until Monday and no cortisol will be lost [steroid hormones don't degrade without an enzyme present, apparently]. I will also email Dr. Fisher with our results from the other day; and email GUMC to make sure everything is okay.*
>
> *Mario*

Example 2: Evening update

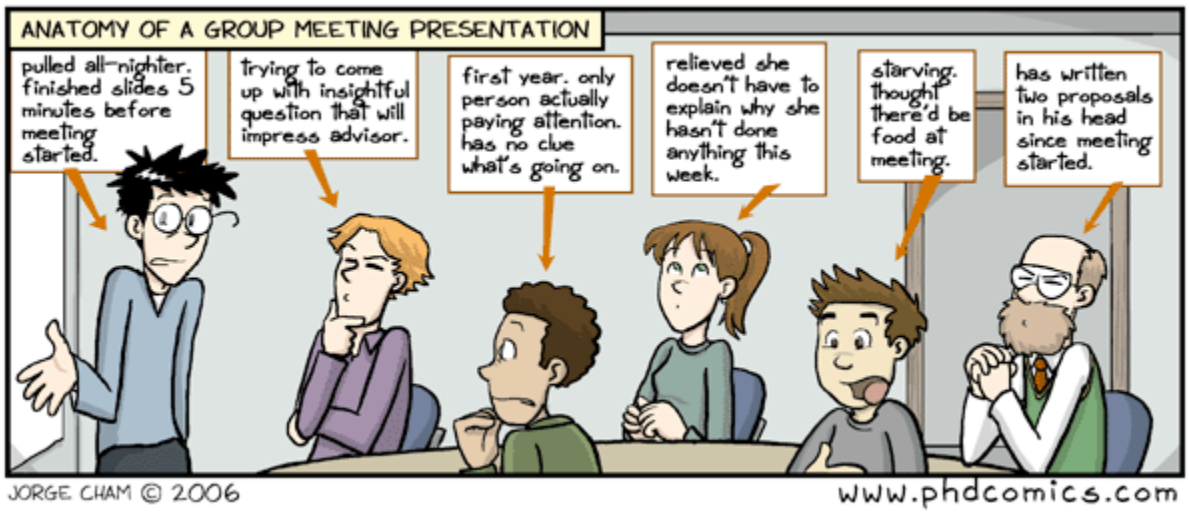
Aims of the evening updates: to let your PI know how all experiments went so far. Also, to list your concerns, new ideas, groundbreaking failures, challenging hypotheses, etc.

> *Hi Dr. Kalueff,*
>
> *Today was full of benchwork! I made a little progress during waiting periods in the RNA protocol; 36 samples was quite a few, but I managed to finish them around 3ish. Nanodropping 60+ samples [thankfully Mario did quite a few; but when I finished I relieved him so he could work on peer reviews] took me to now, and I updated and uploaded the sample database to include two more boxes [made it fit!]. The updated sample database is on labmeeting, and you'll be happy to know all samples are usable [RT-PCR and such]. Our zebrafish have been fed and medicated.*
>
> *All right, I think that covers it. See you tomorrow.*
> *Steve*

7. If a major disaster happened, do not start your updates with "I would like to discuss with you current situation with…". Do not hit around the bush, go straight to the point: e.g., "We have burnt the water bath…" – your PI can handle bad news.

Presentations and meetings

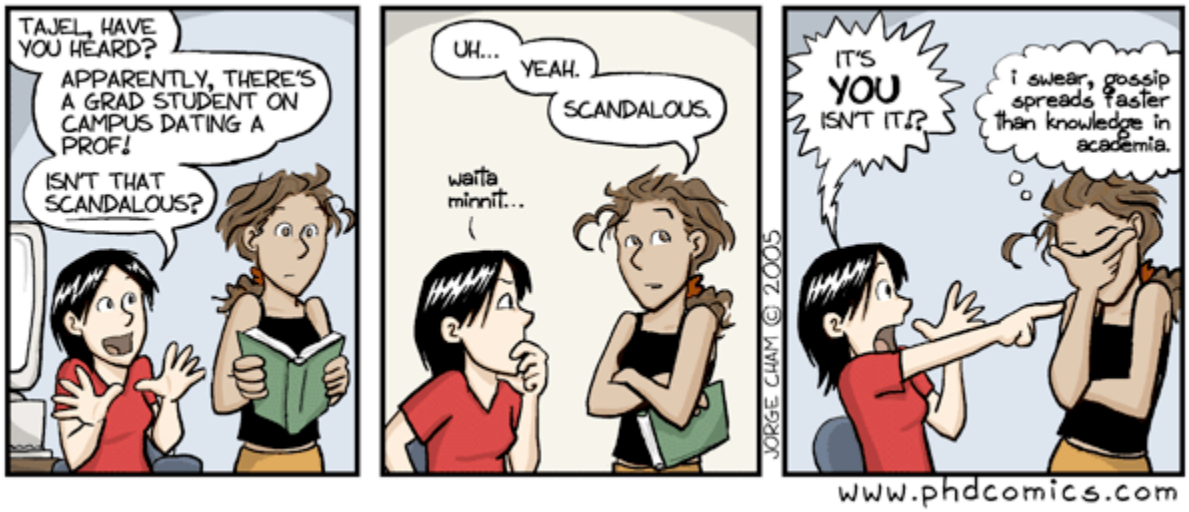
1. It is okay to interrupt journal club presentations with uncontrollable giggling.
2. Expect to present your research data at the regular lab meetings. There will be many impromptu lab meetings as well.
3. Ask smart questions, give feedback to your colleagues – do not be shy. This is what Science is all about.
4. DO NOT sleep at our seminars!
5. Use meetings for social networking. Know your audience (see below).



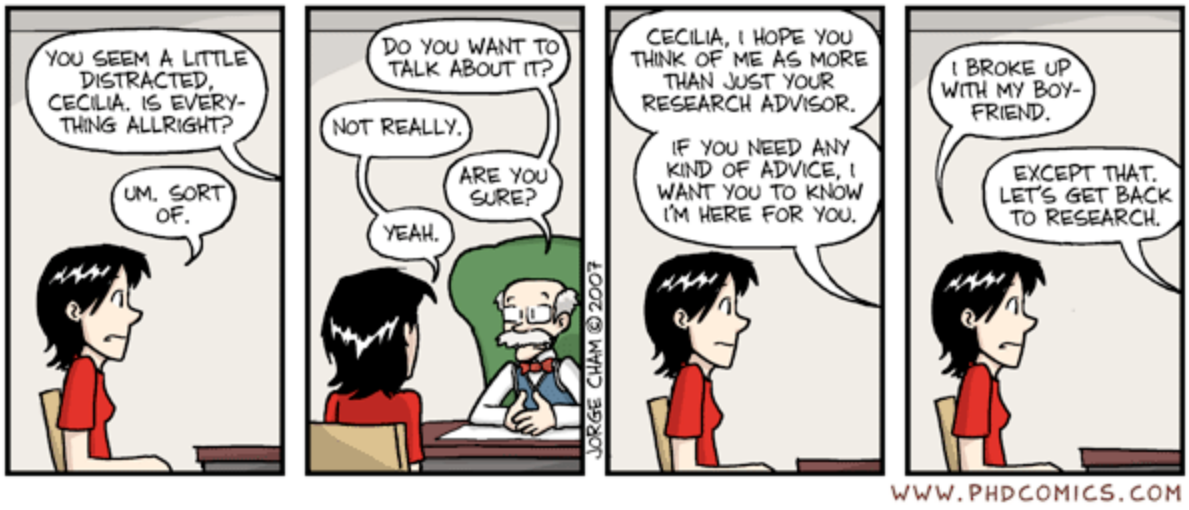
6. When travelling with your lab to a conference by plain or train, sit close to your folks.
7. Never, never suggest that you can fill an “empty” space in the poster carrier - that big plastic tube that shelters your great poster - by some items of your luggage (e.g., socks, even though they will fit wonderfully).

Important Practicalities

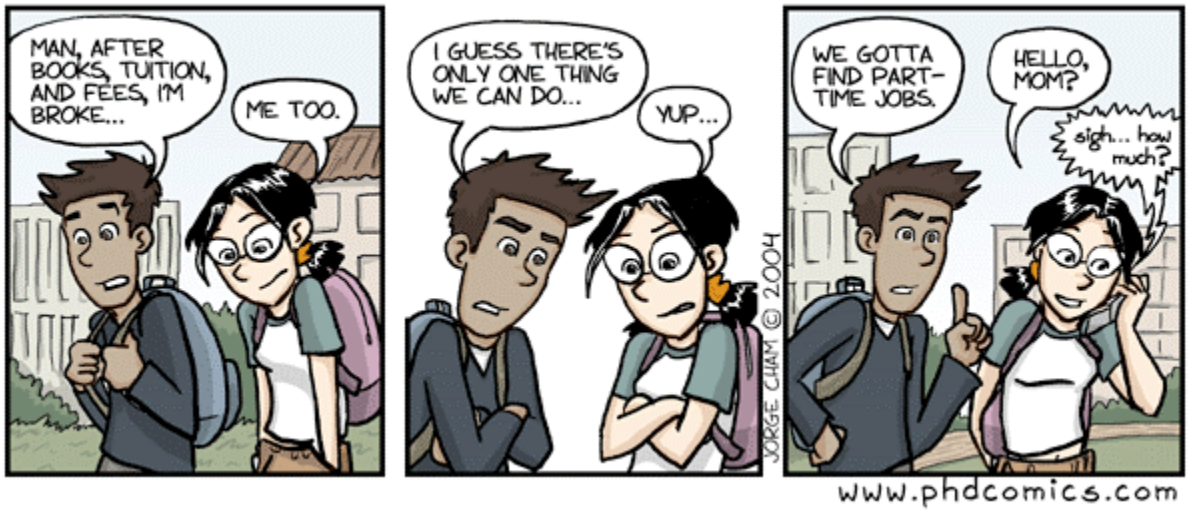
1. We welcome all religions. Especially Buddhism.
2. Parking tickets are much more expensive than simply parking.
3. Chinese food is good for you.
4. This lab has zero tolerance for sexual harassment. Do it after work. And notify the PI, if advise is needed.
5. Dating is at your own discretion. Please note that this lab adheres to certain good practices of dating, approved by ABMLC (Association of Biomedical Lab Chiefs). Students usually date students and, in some exceptions, postdocs. Postdocs date postdocs; assistant professors usually date assistant or associate professors. Professors usually date Professors.



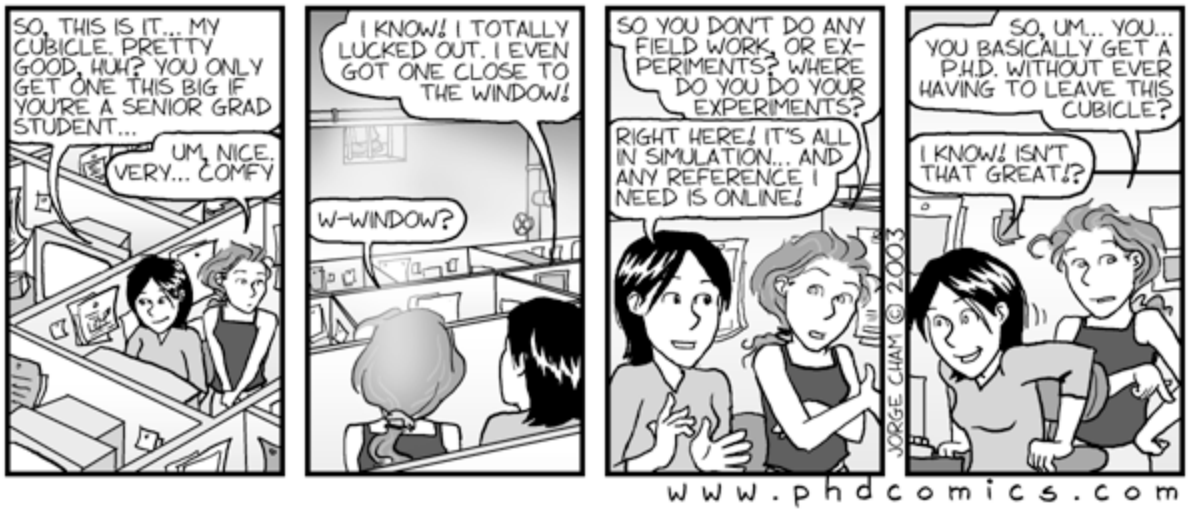
6. Develop expensive tastes. See if you can put your cufflinks to work.
7. Consistency is a hallmark of an organized and thoughtful mind; be consistent in science and your work (e.g., matching socks).
8. Do not ask your PI about taxes, bureaucrats and some other things (see figure below for details).



9. Your *starting* salary (if you are being paid) is based on your "past" – your past academic records, experience, and accomplishments. Your *current* salary is based on your "present" – your performance in research and your contribution to this lab.
10. Discuss your salary once per year – before being hired, or before renewal. Keep in mind: your PI will never reduce your current salary, but he may increase it at any moment.
11. Consider calling your mom, if help is necessary.



12. Enjoy your working space. Poor people at NIH do not have it at all! [5]

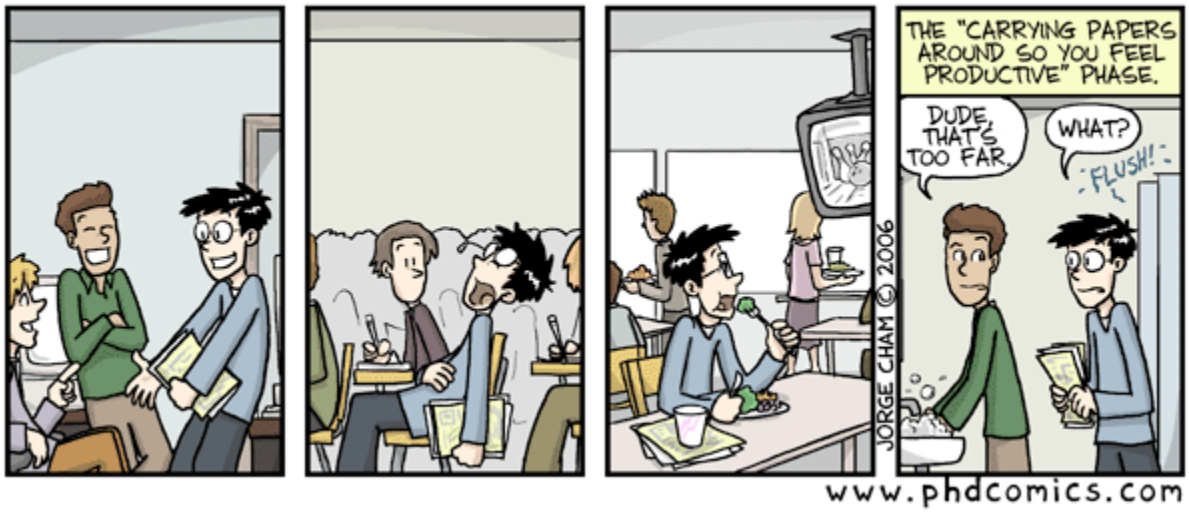


13. Please eat and sleep well at least 1 week before visiting your parents, so they will not blame your PI, the lab, or Science for your working so very hard.
14. When leaving this lab, please give at least a 2-year notice.
15. Do not leave the lab in January or February – it is pretty cold (especially in Chicago)!
17. Most people leaving this lab do so because they fall in love with someone else other than Science. Fair enough – your PI will understand this.
16. This lab applies the Zukowska's principle, dealing with lab members: The song bird sings most beautifully when it is happy. However, the bird wants freedom, and will soon sing a sad song in its golden cage. So to make it happy, open the door and let the bird explore his surroundings. Then it will appreciate the niche he took for granted, and will come back. Just leave the door open all the time.
17. When you become a professor, find a smart student, buy him a seafood sandwich and a glass of red wine. This is Richard Brown's rule. When this student becomes a professor, he will do the same.

[5] Office of NIH Intramural Research Program (OIRP) strongly disagrees with this statement. Office of Dr. Kalueff's Research Program (ODKRP) strongly disagrees with OIRP.

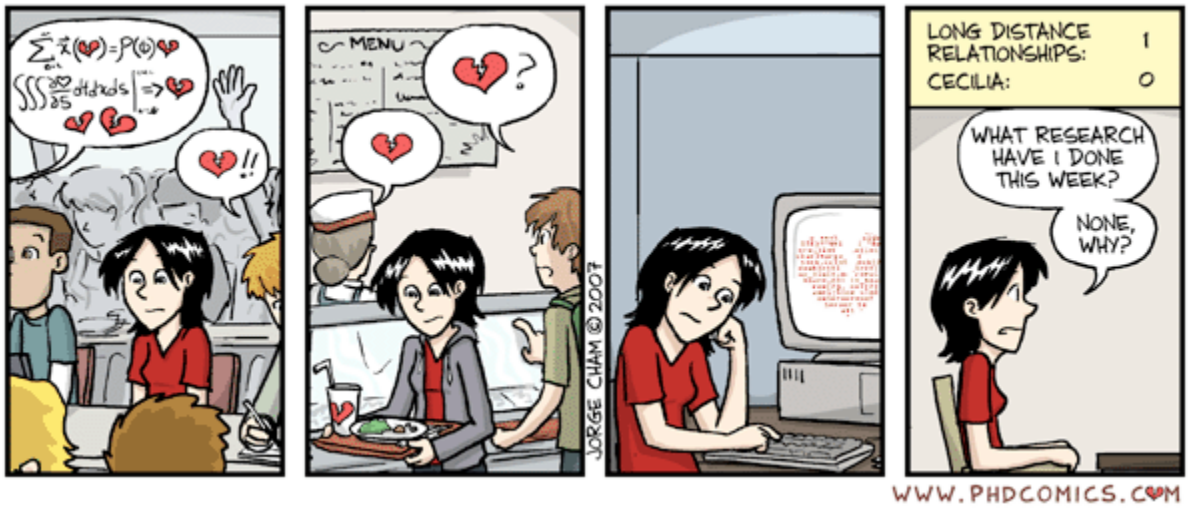
Scientific creativity and productivity

1. Utilize your own time to ensure peak efficiency when actually in the lab.
2. Train yourself to constantly multitask to increase productivity.
3. Carry papers with you all the time. First, others will think you are busy. Second, this may eventually boost your own creativity.

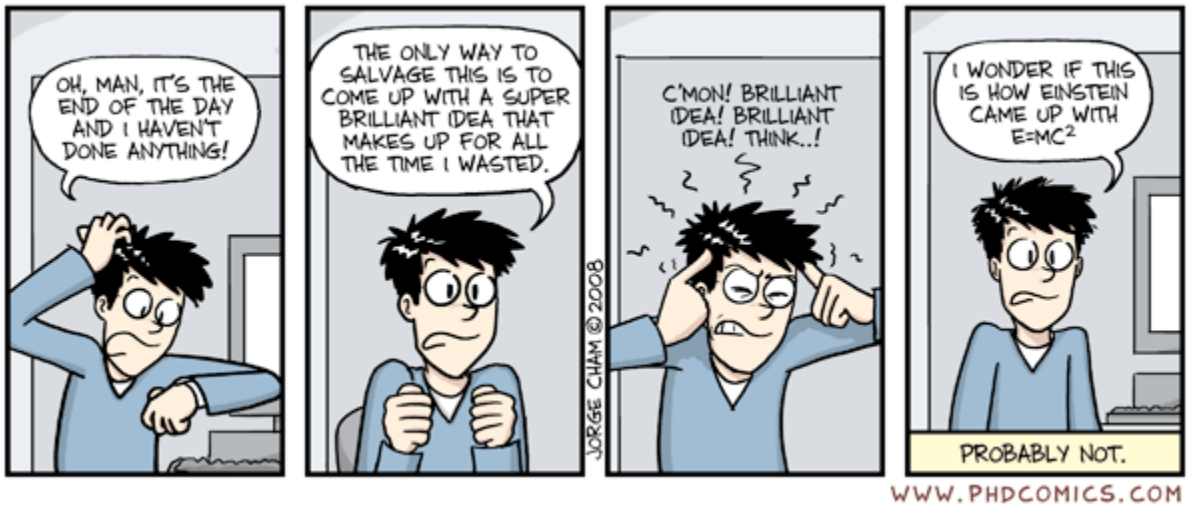


4. A great idea may be a nice ending of the day (see figure below).
5. A cup of coffee may be quite inspiring.
6. No more than 8 cups of coffee per day: pharmacogenic anxiety kills creativity.

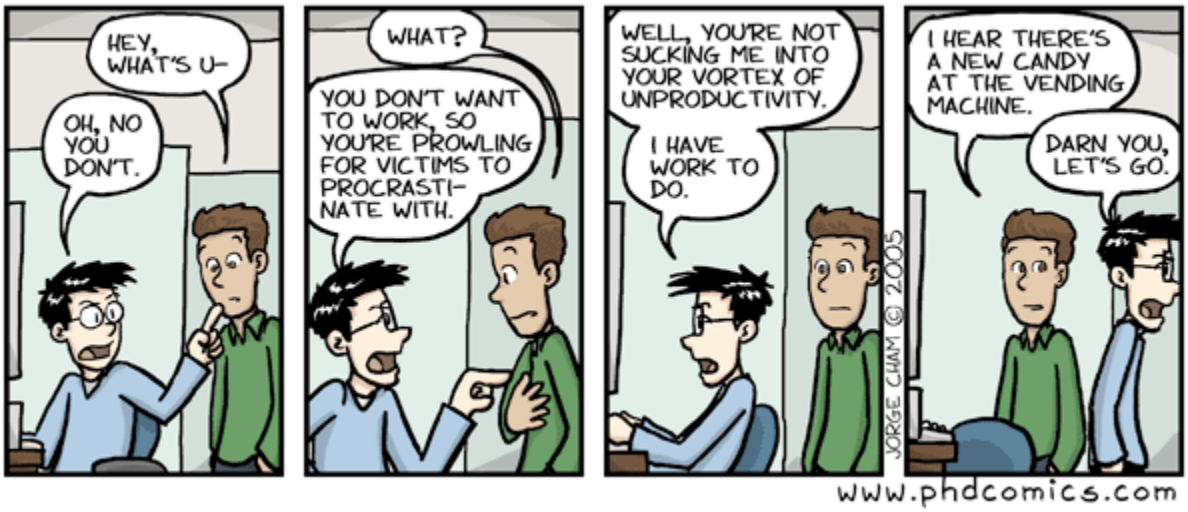
7. Avoid being heart-broken. This is bad for science (see, however, the good dating practice above).



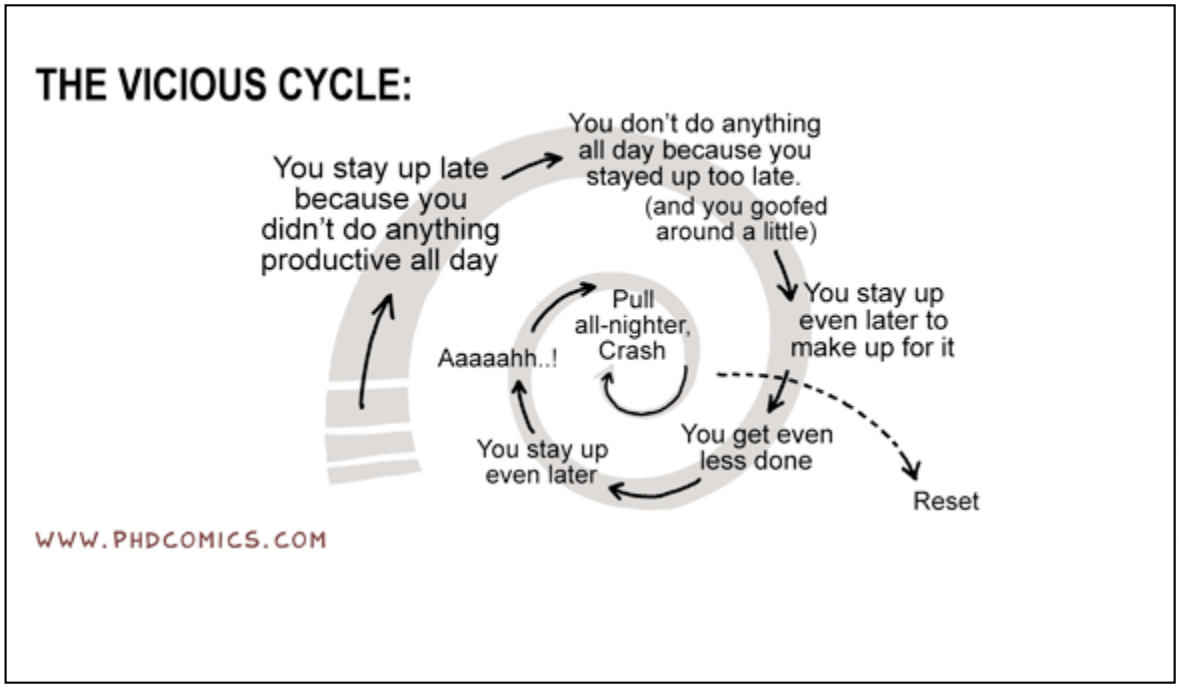
8. Foster creative thinking.



9. Bounce your ideas off others in the lab.
10. Think "outside the box".
11. Do not allow the vortex of unproductivity (see figure) to suck you up.



12. Do things differently. Be creative, and do not follow the stream.
13. Do sleep sometimes, to keep your productivity (see figure below).
14. Do you still want to be a scientist?



Some great citations relevant to our life in this Lab

I can accept failure, but I can't accept not trying. – Michael Jordan

Be like a duck. Calm on the surface, but paddling like the dickens underneath. – Michael Caine

Never lose sight of the fact that the most important yardstick of your success will be how you treat other people. – Barbara Bush

It's not enough we do our best; sometimes we have to do what's required. – Sir Winston Churchill

I am careful not to confuse excellence with perfection. Excellence, I can reach for; perfection is God's business. – Michael J. Fox

Ability is what you are capable of doing. Motivation determines what you do. Attitude determines how well you do it. – Lou Holtz

To be a champ you have to believe in yourself when nobody else will. – Sugar Ray Robinson

You miss 100 percent of the shots you never take. – Wayne Gretzky

Be careful of your thoughts; they may become words at any moment. – Lara Gessen

One of the secrets in life is to make stepping stones out of stumbling blocks. – Jack Penn

A professional is a man who can do his best at a time when he doesn't particularly feel like it. – Alistair Cooke

Smart is when you believe only half of what you hear. Brilliant is when you know which half to believe. – Orben's Current Comedy

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