

The Weitz Lab Survival Guide

Dave Weitz

Group meeting

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Group Responsibilities

- Being part of this group is:
 - A privilege
 - A right
 - A responsibility

Group character

- We have a large group
- There is someone in the group who can answer almost any question
- We work in Boston – the richest scientific community in the world
- There is someone in Boston who can answer any question
- Take advantage of this!

Group character

- Completely open group
- We share all our data as we collect it
- We share all our equipment
- We like visitors, interactions
- We do this even at the risk of being scooped by outside groups

Group interactions

- We compete with people outside our group
- We do NOT compete with people in our group
- We interact and collaborate with everyone in the group
 - We will not be successful if we don't do this
- We share credit, authorship
- We err on the side of inclusiveness in the group

Group interactions

- We seek out collaborations with other groups
- If I am the only faculty member you talk to, you waste a great opportunity
- Reach out to others, but have something to bring
- Main lack of success in this group comes from poor interactions with others in the group

Local resources

- We do not have all equipment necessary
- It probably can be found somewhere in the region
- Use other's equipment judiciously
- CNS and central facility equipment is expensive
- Use it judiciously
- But use it when you need it

Group meetings

- Everyone must attend
- No excuses not to attend
- Please tell me and Hong if you can't attend
- If you don't come to the group meetings, you are not part of the group
- Group meetings are for current results
 - You should not understand everything
 - 30-minute talks
- Everyone should participate

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Mini-group meetings

- Most valuable meetings of the group
- New science discussed
- Get help from others
- Everyone must attend at least one each week
- No excuses not to attend

Other meetings

- Many other meetings in the local area
- Take advantage of these!
- Kavli meetings on Thursdays – P306
 - Meet theorists who will help us
- New England Complex Fluids Meetings
 - Brandeis the Friday
- Very important forum for local interactions
- Attend! Put in a sound bite!
- This benefits you!
- You will appreciate this only after you leave

Other meetings

- Many other meetings in the local area
- Take advantage of these!
- New England Complex Fluids Meetings
 - Brandeis last Friday
 - Harvard Friday Dec. 1
- Very important forum for local interactions
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- This benefits you!
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Group travel

- Travel is very important to each person
- Everyone can attend one conference a year
- You **MUST** present a paper to go to a conference
- **PLEASE** travel as cheaply as possible
 - There is no budget for travel
 - One meeting ~1k\$; 50 meetings, ~50k\$!
 - Cheaper travel → more meetings

Purchasing

- Our budget is very lean
- Salaries are our major expense
- Research also requires funds
- BUT: Nothing is not done because of lack of funds
- Please buy judiciously
- Purchase only what is needed
- Get my permission for items greater than \$500

Safety

- We must be absolutely safe
- There is no room for error
- Wear safety glasses, gloves, lab coats
- Wear closed-toe shoes always in lab
- Speak out to remind others
- Talk to strangers!!

Lab etiquette

- Part of safety
- Large group → shared equipment, space
- Everyone is responsible for cleaning up
- Everyone is responsible for maintaining equipment
- If you see something in need of repair, fix it!

Lab cleanup

- Part of safety
- Organized by Hong
- Everyone is responsible for cleaning up
- Everyone must attend the cleanup

Lab jobs

- Our group has no science administrators
- Everyone must help
- Everyone should have a lab responsibility
- Group only functions if everyone helps

Scientific integrity

- Data are KING
- Data never lie
- Data are not always understood
- Watch for data you don't understand
- Never believe a hypothesis, believe only its proof by data
- I am happy to be wrong → I learn something new

Choice of scientific topics - Students

- Tremendous latitude of topics
- You should work on *interesting*, relevant topics
- Choice must be sustainable in our group
- Choice of topics is very difficult
- Check with me to help choose
- Check with me to validate your choice
- Listen carefully to what I say
- Don't always do exactly what I say

Choice of scientific topics - Postdocs

- If supported by a project,
 - Your salary depends on it
 - You must make progress on it
- There is usually time for a second project
- Tremendous latitude of topics
- You should work on interesting, relevant topics
- Choice of topics is very difficult
 - Check with me to help choose
 - Check with me to validate your choice
- Listen carefully to what I say
- Don't always do exactly what I say

Papers

- Papers are essential
- Work is never completed until paper is published
- Papers take a lot of work to get out
 - Especially in our group
 - I am the hold up
- You have an opportunity to learn how to write good papers – take advantage of it!!

How to publish a paper

- Read the guide to writing papers
- Determine what the paper is about
 - 2 sentence summary
- Get figures together
- Write outline
- See me at each step of the way
- How to see me → harass me for appointment
- Short appointments work much better

Papers → Students

- I won't read a thesis
- I will only read a paper
- A good thesis is a set of papers stapled together
- Get a paper out early in your career
 - Learn how difficult it is
 - Learn how to accomplish this
- If you wait till near when you graduate:
 - It will take much longer
 - You will be less successful

Postdocs: Route to success

- Join Weitzlab
- Work hard in a great environment
- Do some really cool work
- Get some really cool results
- Make a great story
- Get a great job
- Write some papers about the results
- Papers do NOT get written after you leave

Requirements for a PhD

- Pass your qual, you will get a PhD
- No lower limit on published papers
 - Some people never write any papers
 - Some people write many papers
- Get input from me about possible papers
- Think about what you want in the future:
 - Academia requires papers
 - They are helpful, but not essential for other jobs
- You will likely need a recommendation from me
 - I will always be honest
 - I will emphasize the positive
 - It is up to you to make sure I know your capabilities

Recommendation letters

- My recommendation is often important
 - Definitely for academia
 - Less so for industry or other places
- I will give an honest assessment
 - I have many students and postdocs for comparison
 - Any letter of recommendation from me will clearly describe progress on papers
- I will be honest about the number of papers written and in preparation

Performance evaluation

- Important for you to do, twice a year
- I will do it, but I won't come to you
- Come to me and discuss, at least twice a year
- This will help you decide what to work on
- This will prevent surprises for you
- I will keep track of who has seen me

How to see me

- Make an appointment
- Harass me until I answer you
- Bring me new data
- Get help early, get help often with papers
- Let me know of any concerns you have
 - Scientific or personal

Interactions with me

- All interactions are helpful to you
- See me when you have any new data
- See me BEFORE you understand your new data
- See me if you don't understand your new data
- I will be most helpful when you show me data
- Seeing data is my greatest enjoyment
- I won't seek you → you MUST find me
- Find me with data, not just with papers

Interactions with me

- I don't want to teach you
- I want to learn from you
- Greater responsibility, greater opportunity
- I will always make suggestions
- Don't be afraid to do otherwise, but understand why you do
- Prove me wrong
 - I will be happy because I will learn
- I won't tell you what to do unless you ask me
- I will tell you if I think you are going in the wrong direction
- Don't be afraid to be wrong
- If you are not wrong sometimes you will never do anything really good

Routes to scientific success

- Don't start by reading the literature
- Start by trying things
- Too much knowledge leads to incremental progress
- Don't be afraid to be wrong
- Make mistakes but learn from them
- If you are not wrong sometimes you will never do anything really good

Leadership

- Good scientists are leaders
- Leaders of science
- Leaders of people

Leadership: Postdocs

- Serve as a role model for other postdocs
- Provide leadership for students
- Leadership demands humility
 - Many graduate students are smarter than you
 - Honor, respect and encourage their contributions
- Leadership requires you to set an example
 - Do really good work to show how it is done
- Discuss this with me

Leadership: graduate students

- Serve as a role model for other graduate students
- Senior students should help new students
- Graduate students should help undergrads, REUs
- Leadership demands humility
 - Other graduate students are smarter than you
 - Honor, respect and encourage their contributions
- Leadership requires you to set an example
 - Do really good work to show how it is done
- Discuss this with me

Leadership: visitors

- Serve as a role model for other group members
- You are part of our group
 - You take space
 - You take resources
- Please help others in the group
- Leadership demands humility
 - Post docs, graduate students and undergrads are good
 - Honor, respect and encourage their contributions

Web responsibilities

- Make sure every paper you publish is posted on the web
- Contribute content for research page
 - Everyone must do this
 - If you are member of the group, you must do it
- Send to Hong

Choice of other discussion topics

- Writing papers
- Giving talks
- Getting funded
- Choosing what to work on