

The Jackson Lab

The goal of the Jackson lab is to understand and identify the molecular mechanisms of membrane trafficking processes. We use a variety of techniques in the life sciences, including protein expression and purification, biochemical and biophysical assays, structural methods (X-ray, EM, NMR), and cell-based techniques.

My job is to organize and direct our overall research program; to obtain and maintain funding; to publish papers; and to give presentations nationally and internationally. Your job is to help me carry out this work by performing experiments, analyzing data, creating figures, and writing. (I still love prepping proteins, too!!)

First and foremost, **we are a team**. We will work together to do great fundamental discovery-based science. Second, this is a “living” document. We will work together to make the lab a great place to do science.

What I expect from you

- **Take ownership of your project & professional development.** Learn to design, conduct, and document high quality research. Stay on top of committee requirements or program policies. Find mentors and a support network. Learn to present your work.
- **Work hard.** Aim for a “normal” weekday (~9am-6pm) and “normal” week (~50 hours). Be prepared to push hard *sometimes*, including evenings and weekends, to push projects forward as needed.
- **Work smart.** Manage your time. Plan. Do things in parallel. Make figures and write as you go. And take some time for yourself to do things you enjoy.
- **Ask for help & listen.** Seek out good advice and be responsive to suggestions and constructive criticism.
- **Help others.** Be a good lab citizen. Help with reagents, equipment, mentoring, training. Collaborate.
- **Read, read, read** the literature.
- **Be accountable.** You are accountable to yourself, your lab mates, me, our funding bodies, and fellow researchers. You are accountable for your data, hours, results, and experiments.
- **Be professional.** Be on time. Stick to deadlines. Treat colleagues and lab funds with respect. Take care of equipment. Be wary of gossip. Respond to emails promptly. Give back to the research community. Discuss work hours, sick leave, or vacation with me in advance. Communicate clearly, early, and often.
- **Consider the multiple demands on my time.** Maximize our time together by coming with questions, data, and plans in an organized way. Get drafts and requests to me in plenty of time.
- **Be brave.** We must take some risks (in science). Be prepared to learn to cope with some failure.

What to expect from me

- I will always try to **lead by example**.
- I will **work constantly and enthusiastically** for the good of the lab and every lab member.
- I will be **available for meetings and informal interactions**. If my door is open, please come in.
- I will **provide feedback, guidance, support, and help**. I will encourage you and be excited about your work.
- I will also **push and challenge** you. I will question and criticize to help you grow as a scientist.
- I will be your **most supportive advocate** now and forever. You are a priority for me. I will protect you and help you try to resolve conflicts if they arise.
- I will be **honest and transparent** about our profession.
- I will **create and provide access** to expertise, opportunities, training, travel, and professional contacts. I will nominate you for awards and/or promote you and your work at Vanderbilt and beyond.
- I will **provide or support you in getting financial support** (stipend, insurance, fellowship, equipment, reagents, computers, etc).

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Expectations for scientists at different career stages

Postdocs

- You should aim for two first-author papers.
- You should plan a project you can bring to the lab (your second paper) and one you can take to your lab (if desired).
- You should learn a new technique or area of science.
- You should mentor both graduate and undergraduate students.
- You should work to obtain your own money.
- You should attend relevant talks regularly.
- You should attend meetings and present your work.
- You should be proactive in seeking out your next job.

Graduate students

- You should aim for two first-author papers.
- You should know your program requirements and stay on top of committee meetings/interactions.
- You should plan to make figures and write regularly.
- You should mentor 1-2 undergraduates or rotation students.
- You should attend meetings and present your work (Mosig money in BSCI).
- You should work to obtain a fellowship.
- You should be proactive in seeking out your next opportunity (postdoc, job, etc).

Undergraduates

- We normally host undergraduates majoring in molecular & cellular biology, biochemistry & chemical biology, neuroscience, and chemistry.
- You should plan to commit to the lab for 2+ years (4+ semesters).
- You should take research for credit. We expect you to enroll for 2-3 hours of credit. Each credit hour means you should spend ~4 hours in lab, so overall we expect 8-12 hours per week in lab.
- The “normal” path is for freshmen or (sometimes) sophomores to volunteer for **one** semester before following the 3860/3861/3961 research path. Please talk to Dr. Jackson for more details.
- You should take required and relevant science courses before (intro BSCI lecture/lab, general chemistry) and after (organic chemistry, biochemistry, cell biology) joining the lab.
- You should register promptly for research credit classes.
- You will be mentored on a daily basis by a graduate student or postdoc.
- You will attend weekly lab meetings and provide updates on your project.
- You should send project proposals or paper drafts to your graduate/postdoc mentor first and then to me.
- You should aim to spend 1 or 2 summers in lab. We have hosted several VUSRP fellows and actively encourage/support such applications.
- You should see the breadth of what we do. Ask to shadow/work with anyone in the lab to see different methods, experiments, data analyses, etc.