How to Be an Excellent (Junior) Researcher in the Eyes of Weiyan

This document summarizes my views on what it takes to thrive in scientific research. It draws from my own experience, the growth of my colleagues, and conversations with respected professors. If you share these values and are committed to putting them into practice, you will fit right into my research group.

I. Mindset & Qualities

- **Stay curious, stay passionate.**
  In my view, a genuine love for science and strong self-motivation is the single most important trait for long-term success in research.
- **Go deep — but not only deep.**
  Modern science thrives at the intersections of fields. While developing deep expertise in your area, make a conscious effort to learn about other disciplines — both closely and distantly related.
- **Keep an open mind.**
  Be receptive to new ideas, whether they come from your own project, a labmate's suggestion, or an unexpected result.
- **But think critically.**
  Don't take published papers — or anyone's word — as absolute truth. Even experts make mistakes.
- **For PhD students:**
  Your doctorate is about becoming an **independent researcher**. Focus not only on learning facts, but on building the skill to learn new things and solve hard problems on your own.
- **For postdocs:**
  Think of yourself as an emerging **research leader**. Use this time to develop the skills you'll need to guide your own team in the future.

II. Learning & Knowledge Building

- **Know your niche better than I do.**
  Aim to be the go-to expert in your specific research topic.
- **Read — widely and regularly.**
  Literature in your field keeps you current; literature outside it sparks creativity.
- **Organize what you learn.**
  Keep a well-structured digital or physical notebook. Categorize key concepts (methods, principles, mechanisms) and always note the source. It will save you hours when writing or presenting later.

- **Talk to me when you're stuck.**
  If something doesn't make sense, don't struggle in silence. Let's discuss it.

III. Communication & Culture

- **I don't read minds!**
  If something is important to you, tell me directly. Clear communication prevents misunderstandings.
- **Share ideas openly.**
  In this group, everyone — including me — is here to learn and contribute. We discuss science as equals. **Constructive feedback on each other's work is encouraged and appreciated.**
- **No secrets, only shared progress.**
  Your discoveries belong to you — and to the group. We celebrate individual achievements, but we grow by sharing knowledge, techniques, and insights openly.
- **Balance independence with collaboration.**
  Try to solve problems on your own first, but know when to ask for help. Respect your time and others'.

IV. Lab Practice

- **Safety is non-negotiable.**
  Always wear appropriate protective equipment. If you're unsure whether an experiment is safe, ask me before you start.
- **Test my ideas — then test yours.**
  Once we've explored the directions I suggest, you're encouraged to pursue your own hypotheses.
- **Document everything clearly.**
  Detailed, consistent lab notes are essential for reproducibility and troubleshooting. If you can't repeat it, you can't trust it.
- **Keep the lab clean and organized.**
  A tidy workspace is safer, more efficient, and shows respect for everyone who uses it.
- **Treat equipment with care.**
  Our funding is limited, and instruments are expensive. Use them properly, and report any issues immediately.