



The Gravity group @ Aveiro University, Portugal

Good Research Practices for New PhD Students

A Friendly Guide to Help You Thrive in Your Doctoral Journey

Version 2.1 — October 2025

 *Prepared by the Gr@v PhD Mentoring Team*

Good Research Practices for New PhD Students

A Friendly Guide to Help You Thrive in Your Doctoral Journey

 Version 2.1 – Revised Edition

Foundations: Building Good Research Habits

- **Document Everything.** Keep track of calculations, parameter settings, and notes — not only polished results. These details will be invaluable years later.
- **Write Early, Write Often.** Draft internal notes to have more productive discussions with your supervisor. Writing frequently also smooths the thesis stage.
- **Plan in Milestones.** Break your research into smaller, achievable goals with realistic deadlines.
- **Read Regularly.** Browse arXiv or relevant journals often. You don't need to understand everything — gradual familiarity is key.
- **Avoid Perfection Paralysis.** Sometimes “done” is better than “perfect.” Keep the momentum alive.

Ethical Research Practices

- **Honesty and Transparency.** Be truthful in your methods, data handling, and reporting. Negative or null results have value.
- **Respect Data Integrity.** Never fabricate, omit, or manipulate data to make results look better. *Data is sacred.*
- **Give Credit Generously.** Acknowledge collaborators, mentors, and prior work (**and all authors of the prior work**). Proper citation honors others' intellectual labor.
- **Use AI and Automation Responsibly.** When employing AI tools, critically evaluate outputs and ensure that you remain the main thinker.

Communication and Collaboration

- **Set Clear Expectations Early.** Discuss communication style, meeting frequency, and preferred response times with your supervisor.
- **Give Regular Updates — Even Brief Ones.** Don't disappear! A short email or quick visit keeps your project active.
- **Ask for Feedback — Don't Wait for It.** Supervisors are busy; polite reminders help ensure you stay aligned.
- **Engage with the Community.** Attend seminars, introduce yourself, and ask questions. Initiative opens doors.

Method and Mindset

- **Embrace “Fail Logs.”** Record failed attempts and lessons learned — progress is built on iteration.
- **Celebrate Small Wins.** Every fixed bug, successful script, or written paragraph counts.
- **Ask “What’s the Simplest Thing That Could Work?”** Clarity beats unnecessary complexity.
- **Schedule Thinking Time.** Block hours for deep reflection and idea generation.
- **Keep Curiosity Alive.** Allow “side quests” that inspire creativity and rekindle your love for discovery.

Academic Life and Well-Being

- **Foster a Positive Environment.** Respect diverse perspectives, be kind, and contribute to a supportive group culture.
- **Learn to Say No (Gracefully).** Protect your time and focus when demands exceed your capacity.
- **Step Out of Your Comfort Zone.** Be open to new opportunities and trust your supervisor’s advice.
- **Maintain Work–Life Boundaries.** Rest, exercise, and leisure are integral to sustainable productivity.
- **Plan Your Exit Strategy Early.** Build skills and networks for careers in or beyond academia.

“ A PhD is a marathon, not a sprint. Consistency, curiosity, and kindness — to yourself and others — go a long way. ”